SUBSCRIPTION PRICE — $4.00 per year; Canada, Mexico and South America, $5.00; other Foreign Countries, $7.00; Single copy, 20 cents.

ESTABLISHED 1868

Textile World

Formerly TEXTILE WORLD JOURNAL, with which is combined Textiles and Posselt's Textile Journal

Copyright, 1927, by Bragdon, Lord & Nagle Co., Inc.

Member of the Associated Business Papers, Inc., and of the Audit Bureau of Circulations.

NEW YORK, OCTOBER 29, 1927

VOL. LXXII, No. 18

Published every Saturday by BRAGDON, LORD & NAGLE CO., Inc., 334 Fourth Ave., New York. Telephone Madison Square 1566.

Branch Offices— BOSTON, 65 Franklin St.; PHILADELPHIA, 828 Drexel Bldg.; CHICAGO, 1521 Lytton Bldg.; CLEVELAND, 3030 Euclid Ave.; GREENVILLE, S. C., 315 Masonic Temple; MANCHESTER, ENG., 17 St. Ann's Square

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Practical Subjects Presented and Discussed Effectively by National Association of Cotton Manufacturers at Boston

Col. G. Edward Buxton of Providence Elected President— Style Show, Rayon Movie and Banquet Were Special Features

ADVANCE predictions regarding the practical, well-balanced and interesting character of the program prepared for the convention of the National Association of Cotton Manufacturers at the Copley Plaza Hotel, Boston, on Wednesday and Thursday of this week, were demonstrated to have been amply justified. From the address of welcome by the Hon. Elliot Wadsworth, who spoke in behalf of Mayor Malcolm E. Nichols of Boston, at the opening session, to the conclusion of the banquet address by G. W. Barron there were few dull moments, and the lighter subjects at the business sessions were presented in such an able and interesting manner as to render them quite as enjoyable for the majority as such lighter features as the style show and dinner dance, the rayon movie and the association's banquet.

A. E. Colby, Elected Vice-President, N. A. C. M.

New Officers and Directors

William B. MacColl completed the second and last term of his administration at this annual meeting and was succeeded by Col. G. Edward Buxton, president and treasurer of the B. B. & R. Knight Corp., Providence, R. I. It was an unusual honor that was accorded to Col. Buxton as he has been a member only since 1923, and also because it was the first time on record that a Rhode Island man has succeeded another Rhode Island member as president. The selection of Col. Buxton as president will prove especially fortunate if the steps that are now being taken by the Board of Government to recognize the centenary of the invention of ring spinning by John Thorp culminate in a celebration, for Thorp was a resident of Providence during the greater part of his inventive career and that city is the logical place for the celebration.

Col. G. Edward Buxton, President and Treasurer, B. B. & R. Knight Corp., Providence, R. I., Newly Elected President of National Association of Cotton Manufacturers. Biographical sketch on page 75.

Philip Dana, Elected Vice-President, N. A. C. M.

Philip Dana, president and treasurer of the Dana Warp Co., Westbrook, Me., and A. E. Colby, assistant treasurer of the Pacific Mills, Boston, Mass., were elected vice presidents to succeed John A. Sweetser, who

resigned his office when he became president of the Bigelow-Hartford Carpet Co., New York City, and Russell H. Leonard, treasurer of the Pepperell Mfg. Co., Boston, Mass., who declined to stand for re-election. To fill out the terms of Philip Dana and A. E. Colby expiring next year, John H. Holt, treasurer Luther Mfg. Co., Fall River, Mass., and Charles E. Inches, treasurer Androscoggin Mills, Boston, were elected directors. All the directors whose terms expired with this meeting were re-elected excepting James Sinclair, treasurer Charlton

W. Irving Bullard, Reelected Treasurer, National Association of Cotton Manufacturers; Chairman Membership Committee; Member Board of Directors

Mills, Fall River, Mass., who was succeeded by B. H. Bristow Draper, treasurer Draper Corp., Hopedale, Mass. The directors re-elected were the following: W. Irving Bullard, John L. Burton, John S. Lawrence and E. Kent Swift.

High Lights of Convention

While the unusually interesting and able presentation of the heavier subjects of the business sessions deserve to be included among the high lights of the convention, those that would normally fall within this classification were the style show and dinner dance, Wednesday evening, which was one of the most successful ever staged by the association; the rayon moving picture presented by C. C. Bassett, Jr., assistant general manager of the Viscose Co.; the addresses of former-president William B. MacColl, of president G. Edward Buxton and of C. W. Barron, who told those who attended the banquet "what is the matter with New England," and the report of the medal committee by chairman Sidney B. Paine. The association medal is frequently, but not regularly, awarded to members for distinguished service to the industry, but in this instance previous records were broken by the presentation of two medals, one to President MacColl for his exceptionally successful administration, and the other to E. Dean Walen, assistant agent of Pacific Mills, Lawrence, Mass., for the development of cotton airplane fabric during the last years of the World War.

N. A. C. M. Convention Program

WEDNESDAY, OCTOBER 26

First Session

Registration—11:00 A. M.

Second Session

2:30 P. M.

Welcome by Hon. Elliott Wadsworth
Greetings from President W. B. MacColl
Topic—The Cotton-Textile Institute—Robert Amory, *Chairman*
"The Institute"—George A. Sloan
"Cost Accounting Section"—George W. Duncan
"Statistical Section"—Paul B. Halstead
"New Uses Section"—Ernest C. Morse

Third Session

7:00 P. M.

Ladies' Night—Style Show and Dinner-Dance

THURSDAY, OCTOBER 27

Fourth Session

10:00 A. M.

Topic—Buying Humidity on a Performance Basis, James E. Coburn, *Chairman*
"Necessity for a Consistent Humidifying Practice"—A. W. Thompson
"Humidity—Its Relation to Humanitarianism and Commercialism"—William M. Trafton
"The Present Status of Textile Regain Data"—A. E. Stacey, Jr.
Discussions by Frank M. Gunby, Richard Knowland, and Charles M. Mumford

Fifth Session

2:30 P. M.

Topic—Developing Cotton Manufacturing—Gordon Harrower, *Chairman*
"Notes from the Day's Work"—J. M. Barnes
"Logical Progress"—Sidney S. Paine
Discussion by E. Dean Walen
Business Session, *President* William B. MacColl, Presiding
Report of the Secretary—Russell T. Fisher
Report of the Treasurer—W. Irving Bullard
Report of the Resolutions Committee
Reports of the Standing Committees
Report of the Nominations Committee
Election of Officers
Indian Hand Cotton Manufacturing (Illustrated with the implements made in Gandhi School, Sabarmati, Abmedabad)—Albert Farwell Bemis
"The Romance of Rayon" (Motion Picture)—C. C. Bassett, Jr.

Sixth Session

7:00 P. M.

Association Banquet—President Elect, *Toastmaster*
Report of the Medal Committee
Speaker—C. W. Barron

Successful Style Show

The style show which was combined with a dinner dance Wednesday evening and scheduled as ladies' night was easily the most successful that has ever been staged by the association. Experience in handling previous exhibitions was used to advantage, and the fact that each exhibitor had an expert cooperating closely with the style show committee, which was also made up largely of style experts, the latter being headed by Miss Laurice T. Moreland. In texture, design and coloring the fabrics were superior on the average to any that have been shown at previous style shows, and the costumes were also designed with a better idea of their style appeal. The principal benefits accruing to the mills taking part in the style show and receiving awards is in the character of publicity to be given to the fabrics and model dresses, rather than to any direct advantage that may result from the style show itself and the comparatively small attendance of buyers and consumers. The traveling style show that was so successfully conducted last year under the auspices of the association, and was made up of prize-winning models, is understood to be in contenplation this year, and having the benefit of prior experience should produce even better results.

Although a large part of the work of organizing conventions falls upon the secretary and officers of the association, the convention committees for this week's meetings must be credited with much more than the usual efficiency and were the recipients of many

Russell T. Fisher, Secretary of N. A. C. M.

congratulations for the results of their efforts. The special convention committees were as follows:

Program Committee.—Lincoln Baylies, Chairman; C. F. Broughton, Gordon Harrower, P. D. Howe, Charles Inches, E. H. Marble, Frank Mauran, Jr., C. B. Nichols, A. W. Reynolds, R. G. Vickery, Walter Whipple.

Style Show Committee.—Miss Laurice T. Moreland, Chairman; Elliott Barnard, Irving Brown, Miss Martha Dodson, E. H. Downes, Allyn B. McIntire.

Nominations Committee.—Robert Amory, Chairman; Ward Thoron, Russell B. Lowe.

Medal Committee.—Sidney B. Paine, Chairman; George A. Boyd, James H. Whitehead.

Resolutions Committee.—W. S. Pepperell, Chairman; John H. Holt, N. F. Ayer.

Cotton-Textile Institute Session

First Detailed Explanation of Work of Its Various Sections

OTHER than the address of welcome by the Hon. Elliot Wadsworth, representing Mayor Malcolm E. Nichols of Boston, and the address of President William B. MacColl, the first business session, scheduled for 2.30 p. m., Wednesday, and actually opened about 2.50 p. m., was devoted to the symposium on The Cotton-Textile Institute. Robert Amory, vice-president of the Institute and one of its most active organizers, acted as chairman, Secretary George A. Sloan, presented a general review of the organization of the Institute, its objectives and accomplishments to date: George W. Duncan, cost engineer, described the work of the cost accounting section; Paul B. Halstead, the Institute's statistician, explained what the statistical section has done and something of what it expects to accomplish, Er-

nest C. Morse, in charge of the New Uses Section, presented an interesting and encouraging report of what is being done to develop new fabrics, and new uses, and broader markets for cotton mill products, and also disclosed the large number of agencies that they are utilizing, or with whom they are cooperating, for the purpose of attaining their objectives.

While it was unavoidable that much of what these speakers had to say regarding The Cotton-Textile Institute had been covered in a general way by President Hines at the recent annual meeting, all of the speakers, including Secretary Sloan, whose task of avoiding duplication was most difficult, gave interesting details of the institute's work that had been only briefly touched upon by President Hines. Following the addresses there was a brief period of discussion that was availed of by several members to ask questions that were answered by Secretary Sloan.

The Opening Addresses

In introducing his address of welcome, Hon. Elliot Wadsworth explained that Mayor Nichols had hoped until the last minute to be able to be present, but was prevented by the serious sickness of his wife. He presumed that it was safe to assume that conditions in the industry were not as rosy as in 1919, or before the war, but that there had been a distinct improvement this year and that everyone was feeling encouraged. Even during the recent years of depression he doubted if many manufacturers felt as pessimistic as did the farmer who was asked to buy a saw mill at what the seller considered a very low price. After reading the letter containing complete details of the property and the bargain price of $3,500, he turned it over and wrote on the back, "What in hell would I do with a saw mill if I had $3,500?"

In closing he accepted the advice of a Scotch friend of his from New Bedford, who is connected with the Nashawena Mills, and who suggested that he would make a hit with the audience if he would guarantee that City Hall would be ready at any time to help any of the association's members who get into jail.

In responding to Mr. Wadsworth's address of welcome, President MacColl expressed the hope that he would extend to Mayor Nichols the sincere sympathy of the members of the association and hoped for the early recovery of his wife. He then presented his annual address, which was as follows:

Biography of Pres. G. E. Buxton

Col. G. Edward Buxton, lawyer, former newspaperman, soldier and cotton manufacturer, who was elected president of the National Association of Cotton Manufacturers at the annual meeting Thursday, is president and treasurer of B. B. & R. Knight Corporation, an old-established textile company of Rhode Island, which is successfully staging a comeback.

Since its reorganization B. B. & R. Knight Corporation has diversified its product, has added elements of style and novelty to its lines and made changes in merchandising to meet the varying conditions of the present day market. The company's trade mark, "Fruit of the Loom" is among the best known and oldest in the cotton industry of this country.

CONFIDENT OF NEW ENGLAND'S FUTURE

Under Col. Buxton's leadership the company has been liquidating its older plants and has been gradually disposing of tenement property and unimproved real estate. At present it is an organization of 270,000 spindles and a finishing plant, all located in Rhode Island, with nothing but modern equipment. Its mills can produce 60,000,000 yards annually and its finishing plant, which bleaches, dyes and mercerizes cloth, can handle more than that total each year. This year a print works was established at the bleachery.

Col. Buxton is confident in the future of New England's cotton industry. He and the company of which he is the executive head have declared that they will stay in New England and work to successfully compete with other sections of the country producing similar goods. During the last year and a half the situation has made favorable progress as far as B. B. & R. Knight Corporation is concerned.

Col. Buxton graduated from Brown University, Providence, in 1902 and later from Harvard Law School. He was a member of the State militia in his college days. In 1899 he was a lieutenant; in 1906 he was commissioned as captain in the Rhode Island National Guard and in 1911 as major.

HIS NEWSPAPER EXPERIENCE

Following graduation from Brown University, Col. Buxton spent a year as a reporter and assistant telegraph editor with the *Providence Journal*. He entered Harvard Law School in 1903 and graduated in 1906. From 1906 to 1911 he was manager of the Title Guarantee Company of Rhode Island and he was with the John Carter Brown Estate during 1911.

In 1912 he was elected treasurer of the Providence Journal Publishing Company of Providence, R. I., and held that position until 1920, although he was also active as a war correspondent and an army officer at times during that period. From August 1914 until January 1915 he acted as war correspondent. In 1916 he took 300 men from Rhode Island to the Officers Training Camp at Plattsburg.

DISTINGUISHED WAR RECORD

Col. Buxton was cited for bravery three times in France, the first being from the 328th Infantry Headquarters, the second from the 82nd Division Headquarters and the third from the general headquarters of the A. E. F. He was in the army from May 5, 1917, to May 12, 1919, and served 13 months in France, six months of which was at the front. He was a major in the 328th Infantry and served at the Somme sector, Toul sector, the Marbache sector, the St. Mihiel offensive and the Meuse-Argonne offensive. During the latter part of his service in France he was inspector of the 82nd Division and later was commissioned lieutenant colonel in the 328th Infantry.

Col. Buxton began his career in the textile industry Dec. 1, 1920, when he resigned as treasurer of the Providence Journal Publishing Company to become vice president of B. B. & R. Knight, Inc.

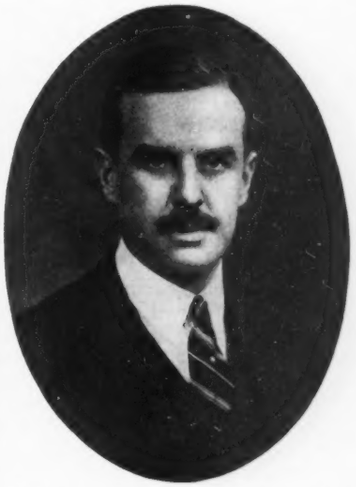
He became a member of the National Association of Cotton Manufacturers April 24, 1923.

Pres. W. B. MacColl's Address

IT is a pleasure to extend to our members and guests a cordial welcome to the 123rd meeting of the National Association of Cotton Manufacturers. I have had the honor to serve as President of the Association for the past two years, and upon completing my term of office desire to give briefly an accounting of my stewardship.

Since the organization was founded in 1854, named at that time the Hampden County Cotton Spinners Association, it has continued to grow in size and usefulness, so that today it has the largest membership in its history, consisting of 1,035 members. It is estimated that our members employ in their plants at least 250,000 people, while their annual payrolls approximate $250,000,000.

The first authentic record of the activities of the Association appear in Volume 1 of the Transactions, published in 1865. Since that date the Transactions have been regularly compiled and printed, containing complete reports of all meetings, papers read, banquet addresses, etc. This fund of information, technical and otherwise is an invaluable library to the textile industry. Each volume contains an index, but a complete general index had never been compiled until last year. After months of exacting labor the consolidated index was completed and duly printed. Although there are comparatively few



William B. MacColl, Retiring President, N. A. C. M., who was presented the Association's medal

complete sets of the Transactions in existence, the Association has two of its own, one is carefully kept in a fireproof vault and the other in its library. Reference may be made to this set by members desirous of seeking information on any topics contained in the index.

An Outstanding Accomplishment

One of the most outstanding accomplishments recently sponsored by the Association has been the Annual Style Show given before our members and guests at the Fall Meeting. This highly entertaining and interesting display of dresses made from cloth manufactured by northern mills was the nucleus of the Traveling Style Show attempted for the first time last spring with such marked success. It appeared in nine of the principal cities of the East, creating most favorable mention wherever given, and did much to stimulate interest in cotton and rayon fabrics. It also brought considerable favorable publicity to the eastern mills. The dresses were eventually sent as far West as the Pacific Coast and were viewed by thousands of women in various department stores throughout the country.

Tax Survey Forced Tax Cuts

The Association has been active in tax matters. A comprehensive study has been made of the taxes paid by cotton mills in Massachusetts and the results made available to the sustaining members through Special Bulletin No. 3. This report brought to light

many interesting and valuable facts. It was noted therein that cotton mills in various Massachusetts cities and towns are paying taxes that are three times greater than in 1915 and almost four times the amount paid in 1896, that the valuations placed on the mills by assessors are above the actual book values of the plants and do not represent the true market value of the mills. Reference was made in this bulletin to a report issued by the National Industrial Conference Board, which showed that 934 textile establishments in Massachusetts in 1924 recorded a loss of $2,767,591 before paying taxes of $26,380,252 to the Federal, State, and local authorities. This shows a total loss in 1924 to the mills in Massachusetts of $29,147,843. Of this amount the Federal Government received but $4,896,215. The combined tax bill, both North and South, was $71,755,298, and was paid out of a combined net income of $72,418,980. Taxes paid absorbed 99% of the 1924 income of the textile industry in the thirteen most important textile States. The result of the Association's activities in tax matters has produced a general realization among tax assessors that unprofitable textile mills cannot continue to pay high taxes. A number of cities and towns have already reduced their rates and it is expected that many more will follow suit next year. This report took somewhat over seven months in its preparation and was given wide publicity by the newspapers.

Favorable Publicity Secured

During 1926 we added to the staff

B. H. Bristow Draper, Elected to Board of Directors, N. A. C. M.

an experienced publicity man on a part-time basis. In 1927 it became necessary to employ his entire time. In addition to securing publicity favorable to the cotton industry, the services of this Department were also offered to the individual members at cost. Although this latter provision is not used as freely as was expected, nevertheless there have been a large number of calls and some very helpful work done by this Department. Two major publicity programs have been instigated, one in connection with the Traveling Style Show, where a vast amount of publicity was obtained, not only in the States where the Style Show was shown but throughout the country in general. As a climax to the Show an illustrated story was sent out through the Associated Press to over 1,200 newspapers. The other major activity was creating on the part of the public a better understanding towards the mills, particularly on the question of taxes. This, we believe, has been very beneficial.

Technical Department's Work

The work of the Technical Department has not been spectacular, but continues to serve those of the members who care to use its facilities. The technical service to members embraces from the examination of yarns, taking a few hours, to more complete investigations, taking several weeks, on extremely technical questions involving problems of manu-

(*Photo Bachrach*)

Lincoln Baylies, Chairman Program Committee, N. A. C. M.

facture. So far as possible investigations of general interest are made with the understanding that the results can be used for material in the monthly bulletin. The Department also works with the National Council Committee on Standardization and Specifications, and secures whatever data are necessary from the manufacturers before they approve the specifications for the Federal Specifications Board. It also cooperates with outside agencies, such as the Textile Committee of the American Society for Testing Materials.

Freight Rates Guarded

The Committee on Rates and Transportation has been extremely valuable in the last two years and has helped to prevent increases in rates that would have been serious. In one instance, it was proposed that carload ratings be made and the loss in revenue be made up by an increase in less than carload lots for piece goods. Except in rare instances, it would have meant to most manufacturers an increase in freight rates. The Committee also strongly opposed the increase in commodity rates on certain manufactured articles, such as sheets, pillow cases, blankets, etc. The increase here, if the commodity rates had been abolished, would have been from 36 to 400%.

The Atlantic City Meeting

In conjunction with the American

Robert Amory, Former President, N. A. C. M., Chairman Nominating Committee and Wednesday afternoon session; Acting Chairman Publicity Committee

Cotton Manufacturers' Association a successful joint meeting was held at Atlantic City last spring under the auspices of the National Council of American Cotton Manufacturers. This was the first joint meeting that has been held since 1918. A beginning was made at that meeting of bringing manufacturers and the several factors in the distribution of textiles together in closer cooperation and thus creating a better understanding of their mutual problems. The Cotton-Textile Institute will now carry on this work, in which considerable progress has already been made and to which we are lending our whole-hearted support and assistance.

Year Book Appreciated

The Association has continued to publish the Year Book, adding each year a number of useful tables and data of general interest. This book is one of the major activities of the Statistical Department and requires much time in its preparation. It is doubtful whether its full value is appreciated by our members, but it has a very high reputation in the industry at large, as attested by the ever increasing demand for copies from non-members. This year sales of the book were larger than any of its predecessors.

Satisfactory Finances

Our financial condition continues satisfactory. We have carefully operated within our budget and have been able to add to surplus. We believe in only accumulating reasonable reserves for use in emergencies. It has been the intention always to give our members full value and service consistent with our income.

Credit for C.-T. I. Organization

The cotton textile industry is gradually emerging from a long siege of unprofitable conditions. The recovery has been slower than expected. Many valuable lessons have been learned during this period of depression, possibly the greatest of all the realization of the absolute necessity of cooperation. It apparently required an experience such as we have passed through to arouse us sufficiently to organize a great clearing house such as The Cotton-Textile Institute. Referring to the Institute, I wish to record the fact that a great deal of credit for organizing the Institute should be given to three of our members, Ex-Senator Henry F. Lippitt, who became the first acting President of the Institute, Robert Amory, now one of its Vice-Presidents, and Ward Thoron, who did so much in securing members. It was largely through their untiring efforts that this great undertaking was made possible. I regret exceedingly that Walker D. Hines, President of the Institute, is unable to be present today at our convention. He is attending a meeting in the West, which he unfortunately could not postpone. I would earnestly recommend the careful reading of Mr. Hines' address delivered before the Annual meeting of the Institute in New York last week. It is undoubtedly one of the clearest and most informing analyses of the present textile situation that has been presented to the industry. We are fortunate, however, in having George Sloan, Secretary of the Institute, and the gentlemen in charge of the three main divisions of that organization in attendance at our meeting.

Secretary Fisher Commended

In concluslon I would solicit your continued support in the Association. There is a very definite place for a trade organization such as ours. It does not infringe or overlap the work of the Institute. It is, I believe, performing useful service to the industry. I also wish to express deep appreciation of the able assistance rendered by our Secretary, Russell T. Fisher, who, by his untiring efforts and devotion to duty has endeared himself to all who have come in close contact with him. The Association is indeed fortunate in having such a competent executive.

* * *

Amory Introduces Speakers

In introducing the chairman of the session, President MacColl stated that "Bob" Amory is too well known to need an introduction. "I hardly know anyone in the textile industry of New England," he said, "who has a greater host of friends; men who look up to him and respect his judgment and ability."

In introducing Mr. Sloan, Chairman Amory said in part: "As chairman I have nothing to say of the

(*Continued on page* 119)

Super Committee Planned

Representatives of Wool Mfrs. Associations to Act for Industry

The appointment of a joint committee representing the National Association of Wool Manufacturers and the American Association of Woolen and Worsted Manufacturers at a meeting last week of the Committees on Production and on Distribution, marks what many feel will be a more definite endeavor to take in hand the problems of the wool manufacturing and distributing industry than anything which has been done so far.

The resolution passed at the meeting of the joint committees calls for five members each from the National and American Associations. The personnel of this committee is not available at this writing, but it is stated that meetings of the executive boards of both associations are scheduled for this week, at which time it is probable that the appointees will be named.

The meeting of the committees was presided over by Howard R. Merrill, of Lawrence & Co. Those attending, in addition to the chairman, were Franklin W. Hobbs, president of the Arlington Mills and president of the National Association of Wool Manufacturers; Nathaniel Stevens, of M. T. Stevens & Sons Co.; R. Leland Keeney, of the Somersville Mfg. Co., and president of American Association of Woolen & Worsted Manufacturers; F. W. Tipper, of Deering, Milliken & Co., and chairman of the Executive Committee of the American Association; Frank E. Leaycraft, of Wm. Whitman Co.; Raymond S. Bartlett, of American Woolen Co.; Walter Humphreys, secretary of the National Association, and J. J. Nevins, secretary of the American Association.

It has been appreciated for some time that the committees which were appointed as a result of the outlining of the so-called Whiteside plan, really had no standing nor anybody to whom they could report their findings. Therefore, it was felt that some permanent organization should comprehend the two existing associations in the trade. Suggestions have been made in certain quarters that the situation called for another independent association. But those who have given the subject serious thought have come to the conclusion there is no room for such an association and as an alternative a super committee representing the two associations now at work would accomplish the best results. In this belief they are following the history of the cotton goods industry where a national council representing two associations and authorized to speak and act for the industry, as a whole, was formed several years ago. What the results of this committee may be to the wool manufacturing industry depends very largely, it is believed, on the personnel of such committee and their willingness to do constructive work.

Cotton Carry-Over Controversy

Secretary Hester's Figures of European Consumption Claimed to be Only Rough Estimate

*By Alston H. Garside**

IN the course of the controversy regarding the world carry-over of American cotton, Henry G. Hester, secretary of the New Orleans Cotton Exchange, has issued a highly important statement explaining why he does not accept the figure of the International Federation of Master Cotton Spinners on mill stocks in Europe, i. e., 1,041,000 bales, but instead issues the greatly different estimate of 775,000 for this item. In view of the fact that we accept the figures of the International Federation on foreign mill stocks, as being the most nearly accurate data available on this item, we feel under obligation to our subscribers to state why we do this. As will be noted, the difference between the International Federation's figure and Secretary Hester's on stocks at European mills is the not unimportant amount of 266,000 bales, or about 34% of the International Federation's figures. This represents a substantial portion of the total discrepancy of 761,000 bales between Secretary Hester's carry-over estimate of 6,952,000 and our own estimate of 7,713,000.

THE figures issued by Secretary Henry G. Hester of the New Orleans Cotton Exchange on stocks of American cotton at European mills, as given by him in his annual carry-over calculations, are only rough estimates secured from European cotton merchants and others who have no exact knowledge of how much cotton the European spinners have, according to Alston H. Garside, director of the Garside Cotton Service. In an article in the current issue of the service, Mr. Garside asserts that the European mill stock figures of the International Federation of Master Cotton Spinners are the only statistics secured from reliable original sources, i. e., the spinners themselves. He declares that there is no foundation for Secretary Hester's recent statement implying that the International Federation deliberately issues incorrect figures with a view to bearing the price of cotton.

Hester Attacks Federation Figures

Secretary Hester says in effect that he does not accept the International Federation's figures because he does not believe them. He practically charges the International Federation with issuing incorrect figures with a view to bearing the price of cotton in the interest of the spinners. Refering to the acceptance of the International Federation's stock figures by the United States Department of Agriculture, Secretary Hester says, according to an article in *Commerce and Finance* of October 12:

"The Manchester Federation of Spinners is, has been, and from all appearances always will be, inimical to southern cotton growers. . . . Now we are confronted with a Government department swallowing Manchester statements neck and crop, and sanctioning and defending them before the world. . . . In this country, mill returns to the Census Bureau are forced by law. . . . Abroad, there is no restriction, and the mill man may report as he pleases. What call is there for the United States Government to endorse the correctness of such returns as a whole from those whose interests may lie in buying raw material as low as possible and selling manufactured goods where markets are highest? That is human; but its operation may at times savor of the inhuman."

Attack Unwarranted

To the best of our knowledge and belief there is absolutely no ground for these reflections on the International Federation's returns. In all of our studies of cotton statistics, extending over a period of more than ten years, and including first hand investigations of original sources in this country and abroad, we have never discovered any evidence of wilful misrepresentation of consumption and stocks of cotton by the International Federation. We do not mean that we consider the figures of the International Federation as 100% correct—that is not to be expected, made up as they are on the basis of returns from several thousand spinners in all parts of the world—but we do believe that, on the whole, they are compiled with the purpose of presenting the facts truthfully.

Comparison Shows No Basis

If the International Federation misrepresented consumption and stocks with a view to bearing the price of cotton, as Secretary Hester clearly implies, it should be possible to demonstrate this beyond question by a comparison of the International Federation's figures and Secretary Hester's. It would be found that the International Federation's stock figures were larger than Secretary Hester's, and their consumption figures were smaller. But a comparison of the two sets of figures fails to disclose any such relationships, as shown below:

STOCKS OF AMERICAN COTTON AT EUROPEAN MILLS

	According to Secretary Hester	According to International Federation
July 31, 1922	775,000	838,000
July 31, 1923	520,000	496,000
July 31, 1924	565,000	500,000
July 31, 1925	740,000	787,000
July 31, 1926	670,000	663,000
Five-year average	654,000	657,000
July 31, 1927	775,000	1,041,000

WORLD CONSUMPTION OF AMERICAN COTTON

	According to Secretary Hester	According to International Federation
1921-22	12,107,000	12,757,000
1922-23	11,949,000	12,666,000
1923-24	10,598,000	11,107,000
1924-25	13,366,000	13,256,000
1925-26	14,310,000	13,730,000
Five-year average	12,466,000	12,703,000
1926-27	16,385,000	15,777,000

If Federation Erred, So Did Hester

Except for the possible but improbable inclusion of a negligible quantity of linters in Secretary Hester's figures on European mill stocks, all of the foregoing figures are exclusive of linters.

It will be seen that the five year averages of Secretary Hester and the International Federation on European mill stocks are almost identical. There is certainly no indication here that the International Federation has overstated these stocks—unless Secretary Hester has also done so. It will be seen that the International Federation made the average world consumption in the five seasons prior to last season as 237,000 bales more than Secretary Hester made it. There is certainly no indication here that the International Federation understated consumption—if it did so, then Secretary Hester did the same, to an even greater degree.

As Secretary Hester has stated, in effect, that he does not accept the figures of the International Federation because he does not believe the returns of foreign spinners, it is pertinent to ask, Where does he get his figures on European mill stocks? In all of our research in the field of cotton statistics, we have not discovered any person or persons, in this or any other country, who know, with any close approximation, how much cotton the spinners have in their warehouses, except the spinners themselves. Those who have dealings with the spinners, such as cotton merchants, may guess, but their guesses are likely to be far afield of the facts. If one had the forwardings to the mills, the consumption by the mills in a given period, and the stocks at the mills at the beginning of the period, one could arrive by deduction at the stocks at the mills at the end of the period—but only the spinner knows what was his stock at the beginning of any given period and his consumption during the period, and if his statements are thrown out as being unreliable, one must resort to guessing what were the stocks at any given time.

Evidence of Rough Estimating

It must be obvious, on the very face of it, that Secretary Hester's carry-over figures, being issued on August first and as of August first, can be nothing else but rough estimates. They cover holdings of cotton in all parts of the world, and it would be simply an impossibility, except at

*Director Garside Cotton Service, Boston, Mass.

enormous expense and with some sort of international force behind it, to bring together all of these figures and tabulate them in a few hours. Even in the United States, the Census Bureau, with the force of law behind it, takes fourteen days to compile the figures on stocks and consumption of domestic mills. The International Federation takes just about one month to bring together and compile its figures on world consumption and world stocks, and, until it has done this, not even the spinners themselves know what are the total stocks at mills of the world. Accordingly, it is impossible to issue an accurate figure on the item of mill stocks, or on the world carry-over as a whole, until about the first of September of each year.

Secretary Hester's figures on stocks at European mills are based on rough estimates made by European cotton merchants and others having dealings with European mills, on forwardings to the mills, and on his own figures on consumption which in turn are rough estimates secured from the same sort of sources as his stock figures. The writer bases these statements on personal inquiries made by him in Europe on annual trips during the last three years. He secured this information in large part, directly from one of those who cooperate with Secretary Hester in the compilation of his figures.

As the carry-over this year is equal to about 60% of the probable crop, it is obviously a highly important factor in the supply situation and the market. The difference of 761,000 bales between Secretary Hester's carry-over estimate of 6,952,000 and our own estimate of 7,713,000 cannot be dismissed as unimportant from a market standpoint. This may be appreciated by visualizing what would be the effect on the market if the Government were to reduce or increase its crop estimate by 761,000 bales.

As previously stated, we have submitted the foregoing because of our feeling that we owed it to our subscribers to give them a clear statement of the facts, as we see them. We have wished to avoid becoming involved in the controversy, as we recognize the highly valuable service which Secretary Hester has rendered to the world cotton trade through his pioneering and constructive work in the field of cotton statistics. We feel, however, that the issues in this matter are so important that they should be discussed frankly and impersonally, from the point of view of the best interests of the cotton trade as a whole.

Another Flax Shipment From Oregon to Ireland

PORTLAND, ORE.—The Steel Scientist, freighter, plying from Pacific ports through the Panama Canal to European Atlantic ports, cleared a few days ago through the local customs house for Dublin, Ireland, with 209 bales of Willamette Valley flax for Irish linen mills.

This is the fourth cargo of Oregon flax to move through this port since Aug. 11.

Textile Machinery at Edinburgh

Annual British Exhibition Held in Scotland for First Time

Special to TEXTILE WORLD

EDINBURGH, SCOTLAND.

THE Annual British Textile Machinery, Accessories and Yarns Exhibition was held this year for the first time in Scotland. Naturally this resulted in a reduction in the number of firms exhibiting, but nevertheless an excellent show was arranged and one which was productive of a number of novelties.

The textile trades in Scotland are exceedingly varied in nature. The tweed industry is centered in Galashiels. The linen trade has been established in Dunfermline since the fifteenth century. The cotton trade is centered around Glasgow where the mills of J. & P. Coats Ltd., are known in every quarter of the Globe. The lace trade is clustered around Darvel and Newmilns. The knitting trade at Hawick. The jute trade at Dundee, while in addition there are many bleaching, dyeing and finishing plants. Finally the silk industry is to be mentioned, and, in addition to many plants using rayon, a new rayon producing plant is being built at Kirkcudbright.

Demand on the part of the buying public for finer and fancier goods is illustrated at the Exhibition in the efforts made by machinery makers and yarn producers to cope with this. As a result knitting machines of very much finer gauge and at least one jacquard machine with three systems is to be seen. Further the finer denier rayons required have resulted in the production of more delicate winding machinery and this is well displayed. Again the necessity for more fancy effects is well illustrated in the combinations of staple fiber rayon and worsted which were shown.

Space is not available to describe even a majority of the exhibits. The contents of many of them are well known to textile men in all countries. We have therefore concentrated on machines of slightly more than usual interest in the following brief summaries:

Daniel Foxwell & Son, Cumberland Works, Cheadle, near Manchester, were showing the pneumatic cloth guider and in addition an automatic selvage printing machine which is fitted with Foxwell guider heads, ensuring that the selvage to be printed will pass accurately and evenly under the printing dies. The machine works at from 60 to 80 yards per minute, and is fitted with draw rollers and lapping arrangement, driven through an adjustable friction clutch regulated to give any required tightness of lap. Another feature of this booth was the show of "Stronglite" rollers which appear to have overcome the difficulties of providing a roller which is at once strong and light. They consist of a steel tube covered with ebonite. Two ribbons are formed into tubes simultaneously, one inside the other and both at suitable tension. The tube is perfectly true and will not dinge.

John Haigh & Sons, Ltd. of Priest Royd Ironworks, Huddersfield, were showing a tape condenser which stands on flat planed slips, thereby makiing it very rigid, and is moved away from the carder by means of rack and pinion. The bobbin creel is loose and can be run away from the remainder of the machine, this being of great benefit for inside cleaning purposes, also for putting on tapes. The upright eccentric shaft is held on ball-thrust washers, thus doing away with any driving friction. The gearing has been rearranged, larger wheels having been put on the rubber rollers, giving more purchase in driving. Finer changes can also be made to surface drums, and the two top and two bottom ones driven indepently by chain or strap. Steel pressure rollers are placed in adjustable fixings and coupled up to rubber end plates, also rubber roller blocks split. The new drive is from the guide rollers above and below the dividing rollers and not from the taking in rollers. By this means the portions of the tapes extending from the taking in rollers to the guide rollers are placed under tension and the remainder slack, i.e. the uneffective portions from the guide rollers back to the taking in rollers. Where the two sets of tapes cross and the division of the web is effected, all the tapes are under the same equal tension and each tape takes possession of an equal share of fibers, in order to render the slivers of equal width and the yarns uniform.

G. & J. Weir, Ltd. of Cathcart, Glasgow, were showing a full size model of a jigger lining in monel metal and many other illustrations of its application. We understand that the use of monel metal in the United States is widespread in the dyeing industry. Its use in rayon yarn producing plants is also being extended wherever there are severely corrosive conditions.

The Commercial Fibre Co. of England, Ltd., the sole importers for the Snia Viscosa Co. of Turin, Italy, were showing yarns as required for the weaving, knitting, hosiery and embroidery industries. Laces, shawls and dressing gowns made from Snia yarn were an interesting sight and there were several examples of dress fabrics.

Brugger & Co., Horgen, Switzerland, showed a new spindleless winder. Two bobbins are worked simultaneously by a toothed wheel-shaft and by means of a patent device can be driven independently. The side bearings can be adjusted to permit the use of bobbins from 2⅜ to 7 inches. The bobbins are driven by a friction cone in the main bearing running on ball bearings, the bearing being pressed into the milled groove at each end of the bobbin. The bobbins are carried on both sides by centering cones, which pass into the bore of the bobbins, the ends serving as an axis. Friction is overcome by ball bearings and the changing of the bobbin is accomplished instantaneously by pressing it against the side bearing, so that it becomes disengaged from the centering cone in the main bearing. The bobbin is started or stopped by swinging forward or backward the engaging lever. Thus a gentle start, regular acceleration and slow stoppage is obtained. The machine is fitted with automatic stop motion. The traverse guide is driven by a spiral regulator running in an oil bath. The machine is driven by a fast and loose pulley when a transmission drive is adopted or by large pulley for electric. The six stepped cones by means of a special arrangement of guide rollers, permit the speed during work to be increased or decreased by means of a hand wheel. Through the double arrangement of the pulleys different speeds can be worked on the two sides.

The Reece Machinery Co., London, had a large range of button and eyelet machines for hosiery and knit goods of the cut-before, cut-after and fly tack types.

H. Stoll & Co., Reutlingen, Germany, were showing a new power eight-lock jacquard knitting machine. In this the jacquard machine is combined with the eight lock machine and it is claimed that double the production of the former is obtained and further that while the production is not less than the eight lock the setting out of the needles is done away with. By means of a provisionally patented system only half the number of cards are necessary as compared with the ordinary jacquard machine. Two color as well as four color patterns can be made. The self acting jacquard movements as well as the automatic change of yarn guides are controlled by chains and by this means both jacquard and eight lock patterns can be introduced into one piece of work. There is a new jacquard drive and also a shaft drive with endless spiral which gives quiet and even running. The machine works automatically until the welt and the latter can be made by an ingenious mechanism for changing the cams operated by a hand lever.

Courtaulds Ltd., of Coventry and London, were showing the latest results of combining spun cut silk or super fibro with worsted and also some examples of fibro spun alone up to as fine a count as 2/120s worsted. The results obtained show great progress in the spinning of this class of rayon. The interest which is now being taken both by spun silk makers and worsted manufacturers is marked and likely to extend further. Cross dye effects obtained in the mixture yarns are particularly attractive. The firm was also showing a loom in operation in order to demonstrate to the visitors the best methods of working.

J. O. Bennett & Sons, Ltd., of Leicester, showed a loop wheel frame, manufactured by the "Waga" Manufactory of Circular-Frames Ltd., Amriswill, Switzerland. This is of the latest type and specially adapted for the manufacturing of plush and velvet. It has an adjustable back hanging cheek on each loop wheel to facilitate quick change.

Jos. Stubbs, Ltd., Manchester, were showing several of their patent winding machines including the rayon bobbin winder, for winding from hanks on to double flanged winding bobbins. Each side has a separate driving shaft with two pulleys to each mandrel. The bobbin mandrels have two drivers, one fixed and one screwed for securing the bobbins. One side has fixed mandrel supports, the other has Lustrafil Ltd. and Dougill's swivelling cradles for which the patent has been applied for. The yarn guides are made of porcelain and the creel is fitted with wood rices and adjustable metal rices.

John Russell of 142 West Nile Street, Glasgow, was showing a working example of a chain loom weaving 75 denier rayon, the only one of its type in the exhibition.

Sunsheen Ltd., Gracehill, Co. Antrim,

(*Continued on page 221*)

Research Club Broadens Activities

Textile Research Council Succeeds Textile Institute Club

AT its annual meeting at the University Club, Boston, Mass., on Wednesday, The Textile Institute Club, whose membership heretofore has been confined to members in this country of The Textile Institute of Manchester, Eng., voted to change its name to the Textile Research Council and broaden its membership to include persons engaged in textile research, or textile manufacturing or the allied textile industries, who shall agree actively to promote the objective of the Council, which is the promotion of pure and applied textile technical research.

George L. Gilmore Elected President of Textile Research Council

A set of by-laws embodying these changes were adopted and the following officers and executive committee were elected: President, George L. Gilmore, proprietor Middlesex Bleach, Dye and Print Works, Somerville, Mass.; first vice-president, W. F. Edwards, Director of Laboratories, U. S. Testing Co. Inc., New York City; second vice-president, E. Dean Walen, assistant agent Pacific Mills, Lawrence, Mass.; secretary-treasurer, C. H. Clark, editor TEXTILE WORLD, Boston, Mass.; Executive Committee, the officers and Franklin W. Hobbs, president Arlington Mills, Lawrence, Mass.; A. M. Tenny, Wellington, Sears & Co., New York City; Edmund E. Blake, Saco-Lowell Shops, Biddeford, Me.

To Stimulate Research Work

For the purpose of stimulating the interest of the industry in research work, and to encourage trained men to engage in such work, the following by-law was adopted: "Fellowships in pure or applied technical textile research may be founded and financed by active or sustaining members, or by groups of either or both, the selection of the Fellow and the supervision of his work being delegated to a committee of three, one of whose members shall be selected by the sustaining individual or group, another to be appointed by the President of the Council, and the third to be selected by those two members.

Diplomas Offered

"If and when a Fellow's research work shall have been accomplished in the opinion of the supervising committee, and if and when in their opinion the Fellow's accomplishment represent a valuable research service to the industry, the committee shall recommend to the Executive Committee that he or she shall be awarded a diploma and title of Fellow of Textile Research Council (F. T. R. C.) and upon a two-thirds vote of the Executive Committee such award shall be made and entered upon the records of the Council."

Pres. Gilmore Explains Changes

In explaining the broadened activities of the organization President George L. Gilmore stated that while the restriction of membership to those belonging to The Textile Institute of Manchester, Eng., had served its purpose in bringing together a group of textile men all of whom are interested in research, it was realized that continuance of such qualification was unnecessarily curtailing possible membership, and also restricting the possible activities of the organization. It is now hoped to bring into the organization practically everyone identified with the textile industry who is interested in doing his part in promoting technical textile research, and such an enlarged group will be better able than the present small organization to provide research counsel and actively to encourage and initiate research work. The Council welcomes the opportunity of cooperating with the other textile organizations interested in research.

No Tariff Revision This Session

According to Senator Willis—Speaking at Philadelphia Meeting

PHILADELPHIA.

THERE will be no downward revision of the tariff at the coming session of congress, according to Senator Frank B. Willis of Ohio, who made the principal address at the annual dinner meeting of Philadelphia Textile Manufacturers' Association, held Oct. 20, at the Manufacturers' Club. Federal taxes should be reduced no more than $250,000,000 by the coming Congress, not $400,000,000 as recommended by the United States Chamber of Commerce before Congress for attention at the ican merchant marine; adequate flood relief appropriations; a larger aviation program and development of American colonial possessions, were other recommendations made by the senator on questions that will come before congress for attention at the next session. His address was enthusiastically received by almost 300 textile manufacturers who attended, it being the largest meeting ever held under the auspices of this organization.

During the last six years Federal taxes have been reduced $200,000,000,000 under the secretaryship of Andrew W. Mellon, whom Senator Willis designated as the greatest Secretary of the Treasury since that office was held by Alexander Hamilton. "I would rather string along with 'Uncle Andy' on tax reduction than follow recommendations of the United States Chamber of Commerce," Senator Willis said, in connection with the campaign being waged by that national association, for a $400,000,000 reduction in taxes, mentioning a number of recent developments which may mean that the surplus will not permit more than a $250,000,000 reduction at this time.

There will be a large appropriation made for flood relief, he stated, which may be as much as $350,000,000 to be spent over a period of three years of which one-third must be appropriated by the coming Congress. There also will be sizable sums to be set aside to bring our navy up to requirements that have been set. Congress will appropriate a larger sum than before for aviation program and for the development of the American merchant marine, all of these being of first importance and in the senator's opinion will make it impossible for the next Congress to reduce Federal taxes more than $250,000,000.

Contrary to popular opinion, Senator Willis, who is a member of the committee appointed to make recommendations for flood relief in the Mississippi valley, said that the levee system instead of being condemned as inadequate protection, had been in his opinion, completely vindicated by the last flood, the worst in more than 100 years. He stated this committee instead of scrapping the levee system for that section of the country, would recommend strengthening present levees by building them wider, higher and stronger and the building of additional ones where Army engineers would advise in their report.

As a member of the Senate Committee on Foreign Relations the Senator said we as a people should take more of an interest in the Philippines, Porto Rico and Alaska. In regard to the development of our merchant marine he said, "I am in favor of developing a privately owned fleet, but if we can't do that, it may be necessary to have Government control for a time. I am not in favor of Government ownership."

The dining room of the Manufacturers' Club was completely filled when Allen R. Mitchell, Jr., chairman of the board of directors, stated the association now has a membership of 260 manufacturers in varied lines in this city, active and associate, representing in all 22 groups, who together have held 141 meetings during the year. The Department of Investigations, started several years ago by C. Marlin Bell who is now secretary of the organization, Mr. Mitchell said is expanding its scope of operations greatly, the report read showing that 139 mills have received direct service from it and that $60,489.85 of stolen merchandise had been recovered for textile manufacturers who have requested the association's help, out of a total of $105,724.85 stolen from members during the last year.

C. Marlin Bell, General Manager of the Philadelphia Manufacturers' Association

Webb Reelected President

Chas. J. Webb, head of Chas. J. Webb & Sons Co., Inc., and president of the Philadelphia Textile Manufacturers' Association during the last five years was reelected to that office. Conyers Read, of Wm. F. Read & Sons Co., was elected first vice-president; John Oughton, head of the Windson Mfg. Co. was chosen second vice-president; Jos. W. Randall of Jos. W. Randall & Bro., Inc., secretary and J. Harold Felton, Valkone Dye & Finishing Works was again elected treasurer, Mr. Oughton being elected an officer for the first time, the others having held the same offices last year.

The board of directors consists of the following: Knitting Group: G. C. Aberle, H. C. Aberle & Co.; James J. Sullivan, Wm. Brown & Co.; Joseph Haines, Jr., of Haines Hosiery Mills and R. A. Lukens, of the Continental Mills, Inc.

Weaving Group: Allen R. Mitchell, Jr., of Allen R. Mitchell & Sons;

Harry Lonsdale, F. A. Bochmann & Co.; Leroy Cummings, John B. Stetson Co.; and Samuel C. Snoke, of the Quaker Lace Co.

Weaving Group; Pile Fabrics: Melville G. Curtis, Collins & Aikman Co.; C. H. Masland, 2nd, of C. H. Masland & Sons; H. L. Thompson, Philadelphia Carpet Co.; and William Zimmerman of J. Zimmerman & Son.

Spinning Group: Millard D. Brown, Continental Mills, Inc.; Henry A. Rath, Penn Worsted Co.; John H. March, John Bromley & Son, Inc.; and Ernest Townson, Kent Manufacturing Co.

Dyeing and Finishing Group: Frank Foster, Jos. R. Foster & Sons; Walter J. Harris, T. A. Harris & Co.; James Hulton, Sr., of Hulton Dyeing Co.; Franklin Knipe, Water E. Knipe & Sons, and James J. Diamond of the firm of the same name.

Tape Group: R. I. Lachlan, Jas. Wilson & Sons, and Julius R. Bux, of J. Sullivan & Sons Manufacturing Co.

Directors at large are: E. E. Brown, of W. D. Smith & Sons; Wm. H. Drexel of McCallum Hosiery Co., and Joseph A. Sommer, of American Pile Fabric Co.

Association's Growth

A total of 48 new members, 32 active and 16 associate, was added to the association during the year and four resignees have been restored to membership. For the first time the organization closed its books with a surplus and a sizable balance in bank, a distinct improvement over any previous year. It is not only increasing in numbers, but under the secretaryship of Mr. Bell is widening its scope of activities and influence.

Col. Millard D. Brown, for many years chairman of the board of directors, was the next speaker introduced by Mr. Mitchell. He, complimented Mr. Bell, their secretary upon the efficient manner in which he has been administering that office and upon the increased interest now being displayed by Philadelphia manufacturers in the organization. Mr. Brown stated that Philadelphia textile workers are paid 25% to 30% more than in the South and that New England textile employes are paid 50% to 75% as much as in Philadelphia, but to offset this Philadelphia mills have the advantage of higher types of workers and also specialize to a large degree on specialty merchandise.

C. J. Webb Optimistic

"Boss" Webb, popular and perennial president, in accepting the office for the sixth time, made a characteristic talk to his "boys." Mr. Webb said the textile business was improving and had made considerable progress since this time last year and as an indication of this he mentioned a sign that he had seen on Market street which read, "Women Ready to Wear Clothes." Mr. Webb said he hoped that we could rely on that because he was getting, as he aptly expressed it, fed up on short skits. He also advised textile industry to try and employ the man who talked the ladies into wearing furs in the summer, saying that such a man might be able to bring woolen underwear back to the position it occupied in the times our grandfathers and grandmothers created styles.

Speaking in a more serious vein, Mr. Webb said the textile industry is the most backward he knew in respect to advertising. "Pick up any national publication" he said, " and you see almost anything under the sun advertised; but you do not find more than one or two textile manufacturers among them." Mr. Webb said, to bring the textile industry back to the position it formerly occupied manufacturers must make themselves heard and seen and he recommended they give more serious atttention to this matter.

Carpet Institute Activities

Information on Industry Being Sent to Members

THOUGH less than 90 days old, the newest accession to trade organizations in the textile field, is already a lusty infant. Reference is to the newly organized Institute of Carpet Manufacturers of America, Inc. As noted in these columns, this organization has headquarters in the Transportation Building, Washington, D. C., with Irving S. Paull, former secretary of the Bureau of Domestic Commerce, of the Dept. of Commerce, as secretary.

The Institute was formed for the purpose of learning concrete facts about the industry and disseminating this information to manufacturers for their guidance. A very systematic effort is being made to secure this information—not only from such data as is readily available by means of official reports, etc.—but also through the medium of the manufacturers themselves. The latter are to be asked to send to headquarters data regarding their production, stocks, unfilled orders, etc., with the idea of forming a bird's-eye view of the industry which can guide them in their conduct of their own business.

Information to Members

A very real start has been made in collecting statistics respecting the industry, together with graphs indicating the trend of demand for particular types of floor covering, extent and character of imports, as well as market information on centers of distribution and available outlets for the product of carpet mills. These data are sent to each member of the Institute in loose leaf form with a folder in which they can be enclosed, thus enabling every member to get a complete picture of the industry and of the particular part of the industry in which he has an interest.

No Lobbying Intended

It is pointed out that although the headquarters of the Institute is at Washington, it is not a lobbying body and has no affiliation with any political party—although the question of tariff will undoubtedly be considered incidentally, with the competition of foreign goods on the home product. Certain of the statistics and charts which are being furnished are in the form of a study of foreign competition designed to show just how much the foreign product cuts into the domestic manufacturer's business. The discovery of the exact situation in this respect may determine the industry's attitude toward the question of tariff in the forthcoming discussion in Congress.

Better Equipment Necessary

One of the main purposes of the information which is being sought is to demonstrate to manufacturers the necessity of improving equipment and the desirability of including in such equipment up-to-date labor-saving inventions which will make for economy in operation. It is pointed out that the carpet industry has been particularly dilatory in its adoption of new ideas and much of the machinery in existing plants is antiquated. If it can be shown that labor costs in certain directions are considerably lessened by the adoption of new equipment, it is believed the whole plane of the industry will be raised by the universal acceptance of the principle that up-to-date machinery is an economy. This applies to processes as well as machinery, and it is believed that the information which will be available along these lines will justify the establishment of this organization.

To Improve Merchandising

It is admitted that the Institute is in embryo and that there are many lines of activity, such as statistical information, cost accounting, etc., which can be developed with benefit. A vary fair proportion of the loomage of the industry is included in the present membership—although there are a good many individual concerns of small calibre who have not yet joined. Sufficient interest has been taken, however, to present a cross-section picture of present conditions and to illustrate the desirability and feasibility of concerted action. So far attention has been practically centered on the matter of production, but it is claimed there is a great field for cooperative action in the merchandising end which, through study and research, can be improved to the benefit of all concerned. No spectacular activities are intended, but it is hoped that with steady growth and earnest cooperation, the Institute will demonstrate its efficiency and usefulness to the entire floor covering industry.

Gulf Electric Co. and the Houston Power Co. will be consolidated with the Alabama Power Co., Birmingham, Ala. Plans for the merger have been worked out and will be submitted to the stockholders Nov. 10. Ratification is considered as certain.

Form Colored Yarn Group

Manufacturers in New Section of Cotton-Textile Institute

Practically all the colored-yarn mills making chambrays, cheviots and plaids were represented at a meeting held at the office of The Cotton-Textile Institute on Thursday, Oct. 20, when a Chambray Group within the Institute was formed.

George A. Sloan, secretary of the Institute, called the meeting to order and explained that Mr. Hines, president, had invited the chambray manufacturers to hold this preliminary meeting to consider the advisability of forming a Chambray Group, taking advantage of their presence in New York for the annual meeting of members. Mr. Sloan explained that while it was not the intention of the Institute to take over the colored-yarn statistics now being compiled by The Association of Cotton Textile Merchants of New York, the Institute was ready to offer its facilities in studying the problems of the Group in other directions which have been found of value to previously formed Groups.

C. W. Causey, of the Pomona Mills, Greensboro, N. C., served as temporary chairman, and, after discussion developed the fact that a very large production of this class of colored-yarn fabrics was represented, meeting proceeded with the formation of a Chambray Group to include cheviots and plaids. An Advisory Committee was appointed as follows:

A. H. Bahnson, Chairman, Arista Mills, Winston-Salem, N. C.
Amory Coolidge, Pepperell Mfg. Co., Lindale Division, Lindale, Ga.
C. W. Causey, Pomona Mills, Inc., Greensboro, N. C.
Fred W. Steele, York Mfg. Co., Saco, Maine.
T. N. Webb, Belle-Vue Mfg. Co., Hillsboro, N. C.
Lynn B. Williamson, L. Banks Holt Mfg. Co., Graham, N. C.
J. C. Webb, Eno Cotton Mills, Hillsboro, N. C.

Mr. Causey was designated as Statistical Captain, T. N. Webb as Cost Captain and Mr. Williamson as New Uses Captain, to represent the Group in these special Institute activities.

The mills represented were:

Arista Mills, Winston-Salem, N. C.
Asheville Cotton Mills, Asheville, N. C.
Belle-Vue Mfg. Co., Hillsboro, N. C.
Consolidated Textile Corp., Raleigh, N. C.
Dacotah Cotton Mills, Lexington, N. C.
Eno Cotton Mills, Hillsboro, N. C.
Haynes Mills, Cliffside, N. C.
L. Banks Holt Mfg. Co., Graham, N. C.
Leak Mfg. Co., Rockingham, N. C.
Locke Cotton Mills Co., Concord, N. C.
Neuse Mfg. Co., Neuse, N. C.
Pee Dee Mfg. Co., Rockingham, N. C.
Pepperell Mfg. Co., Lindale Div., Lindale, Ga.
Pomona Mills, Greensboro, N. C.
Riverside & Dan River Cotton Mills, Danville, Va.
Salisbury Cotton Mills, Salisbury, N. C.
Tupelo Cotton Mills, Tupelo, Miss.
York Mfg. Co., Saco, Maine.

Mills not members of the Institute will be urged to participate in the activities of the Group, which it is hoped will tend to bring about a better understanding of conditions affecting not only the manufacturing but the distribution of this class of cotton textiles.

Amoskeag Co., Manchester, N. H., has announced that the trustees have formally declined to accept the cash offer of $42,000,000 submitted by Edward C. Carrington, of New York, for the company's assets.

THE TEXTILE OUTLOOK

Decline in Stock Market Not Evidence of Coming Business Recession, Says Dr. Haney

IN view of the recent relapse in the stock market it is timely to review the general business situation. The large surpluses of a good many important companies have been giving hope of "distributions" of past earnings and the prevalence of ample supplies of funds and low money rates have encouraged speculation. In some cases the high prices have not been as high as they seem, but in a good many others price advances have been based upon hopes that could hardly be realized. The low interest rates still exist and not a few companies still have large surpluses, but several conditions have combined to chill speculative enthusiasm.

Reasons for the Decline in Securities

In the first place, there has come a belated realization that ***business activity and profits have undergone a considerable decline during the last year and a half.*** This has been sharpened by the declining trend of railway carloadings and earnings and by the large number of relatively unfavorable earnings statements of industrial companies. Business, as anticipated by the P/V Line, has in general declined for over a year. This is clearly to be seen in any unbiased study of the trend of building activity, automobile production, pig iron production, and employment of factory labor. Such a decline, though gradual, has come along with narrow profit margins, and naturally poorer earnings statements were to be expected.

In the second place, ***the position of the bank credit is not all that could be desired.*** Brokers' loans have not only become truly high, but also have risen rapidly. The total volume of bank credit is perhaps not too large (although some consider it so), but the amount of credit based on stocks and bonds is certainly larger than sound commercial banking principles would allow. The rise of several foreign exchanges nearly to par and the excess of gold exports last month, moreover, suggest the possibility of some reduction in reserves.

In the third place, this is a season of a ***political disturbance.*** A strong "radical" bloc has been formed in the Senate. No one knows what sort of men the presidential candidates are to be. Various "investigations" that may be disturbing to certain business interests are under way, and the reduction of Federal taxes by any large amount is in doubt.

The ***recent weakness in farm prices,*** such as cotton and wheat prices, may also be mentioned as casting doubt on the early optimistic estimates of farm purchasing power.

But the main factor in the situation has probably been the ***the "technical" condition of the market.*** It had become decidedly top heavy, and plainly the difficulty of getting buyers for stocks at higher prices had grown greater. The numerous "pools" which had forced these stocks up had become overloaded; they could carry the load no longer. Probably their banks had something to do with this situation.

The Stock Market Not Forecasting Bad Business

This point is to be emphasized, for the reason that ***to the extent that this decline is a "technical" correction, it does not mean that the market is forecasting recession in business. To the present writer, it does not mean that the business future is sufficiently dark to have been the cause of the drop in security prices. Such recession in industry as has been going on is rather far along and has been very gradual. In fact, it seems fairly probable that we are nearer the bottom of a cycle in such basic industries as steel and building than we are to the top.*** The time to get bearish is just before a business decline begins, not when it has been on for a year and a half. Also, it will be remembered that there has been no general trade inflation in the last four years.

As to the banking situation, it may readily be corrected by a technical and intermediate liquidation of securities such as is now well along. It continues true that reserve ratios are high and that there has been little recourse to discounting at the Reserve Banks. Certainly the ease in the money markets shows that no great general strain on credit exists. It is doubtful if any major decline in the stock market has ever occurred without such a strained condition.

The political situation, after all, is nothing unusual, and the psychological chills occasioned by it will pass. No probable candidate now in sight would be likely to hurt business. Much talk and little action is certain to be the result in the coming session of Congress.

It is better for everyone that a given total crop value should result from large crops at low prices than from small crops at high prices. Certainly cotton manufacturers would be benefited by a good-sized moderately-priced cotton crop.

In short we are not bearish and do not think that the stock market will continue so much longer — even if the pessimism there were prophetic of business conditions to come.

Consumer Purchasing Power, Though Not As High As Supposed, Has Gained of Late

We present again this month statistics bearing on the income and purchasing power of people living in the northeastern states (see Fig. 1). Our index number in September rose to 99, the average for 1921-1924 being 100. This compares with 98 in August and 103 a year ago. The low point of recent years was reached last June when

Textile World Analyst

The analysis and forecast by Dr. Lewis H. Haney, Director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

SUMMARY—GENERAL

1. The decline in stocks has not been based on new developments in business and does not appear to be forecasting a major recession. In fact, business seems to be nearer the bottom than the top.

2. The purchasing power of consumers in the Northeast, though not at a high level, has gained of late.

3. Wool manufacturing business is faced by the problem of rising raw materials, but is on the up grade. The trend toward prosperity in cotton manufacturing has been checked by a set-back in buying but more moderate and stable prices for raw cotton should bring improvement.

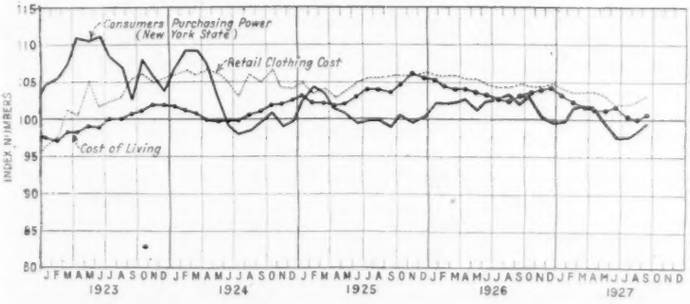

Consumers' Purchasing Power (New York State)
Retail Clothing Cost
Cost of Living
INDEX NUMBERS
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1923
1924
1925
1926
1927

Fig. 1. PURCHASING POWER AND COST OF LIVING—Consumer Purchasing Power (N. Y. State)—Composite Agricultural, Wage Earners, and Manufacturers' Purchasing Power (New York University, Bureau of Business Research). Cost of Living (National Industrial Conference Board). Retail Clothing Cost (National Industrial Conference Board). Four-year average = 100 in each case.

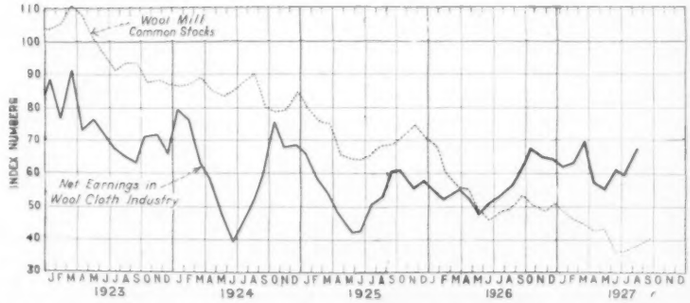

Wool Mill Common Stocks
Net Earnings in Wool Cloth Industry
INDEX NUMBERS
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1923
1924
1925
1926
1927

Fig. 2. WOOL MANUFACTURING EARNINGS AND WOOL MILL COMMON STOCKS—Net earnings in Wool Cloth Industry—Computed from the cost of raw material, labor, fuel, etc., the price of finished goods and the volume of production (New York University Bureau of Business Research). Wool Mill Common Stocks—Average of American Woolen Co. Common and Arlington Mills Stocks.

the index was only 97.5% of the average for the four years 1921-1924. Thus the recent trend has been upward and the purchasing power index has recovered nearly to the average. These figures are based on conditions in the state of New York and cover farmers' sales, factory labor, and manufacturers.

Considering both the quantity marketed and the price of the chief crops, farmers in this section appear to have been receiving smaller incomes than in 1924, 1925, or 1926, but larger than in either 1922 or 1923. Taking into consideration the cost of living, however, we should say that ***the average farmer, while not in such a favorable position as last year, is about as well off as in 1925.***

It is a fact that labor showed increased employment in September and, though employment is under the level of 1925 or 1926, there were about as many workers occupied in factories as in September, 1924. ***The average weekly earnings of the laborers were the highest of any recent year, so that the total labor income makes a favorable showing.*** It is the highest since last Spring. Moreover, the lower living costs of recent months have undoubtedly benefited factory workers.

Manufacturers in this section show a well sustained total volume of production and higher average prices for their products, so that their income presumably increased in September. The third quarter, however, will undoubtedly show lower returns than in any quarter during the last three years.

The cost of living index of the National Industrial Conference Board showed a slight increase last month being 100.5% of the average for 1921-1924, against 100 in the preceding month and 103 a year ago. The retail prices of food, fuel, and clothing advanced last month, while residential rents declined to a point that is the lowest since July, 1924. The cost of clothing at retail rose in September to the spring level, the index being 103% of the five year average. The chief factor in the advance was the rise in cotton goods.

In general, ***we conclude that the trend of consumer purchasing power is slightly upward, though the level in the northeastern section at least is not as high as is commonly supposed, largely on account of the position of the farmer. Living costs, however, are relatively low. We consider it unfortunate that retail clothing prices continue relatively high.*** Leaving scant styles out of consideration, it would seem that only a considerable gain in purchasing power or a diversion of part of the consumers' income that has been going for automobiles, etc., can bring greater clothing consumption.

Outlook for Wool and Cotton Manufacturers

Unfortunately, at this writing, the latest available statistics on wool manufacturing are for August. In that month the trend was clearly upward and such activity was the highest since December last year. Other indications suggest a moderate expansion. But, though raw wool continues upward in price, there has been no proportionate gain in the price of goods or yarns. While this has not yet hurt the manufacturers of wool cloth, owing to their current use of raws bought at lower prices, it is possible that their profit margins may become narrower. Unless goods prices advance, actual operating margins will before long be unsatisfactory and we believe that there was a small decline in September. Last month the common stocks of representative manufacturers increased, rising from 37.9 in August to an average of 40.2 in September. This undoubtedly reflects the improved average earnings. Of course, the general weakness in the stock market has affected these securities more recently and the October average will probably show a decline back nearly to the August level. But, ***while there is some uncertainty due to the difficulty experienced in securing a mark-up for cloth in proportion to the advance in raw wool, we believe that the wool manufacturing industry has turned the corner and will show increasing prosperity this winter.***

Recent declines in the price of raw cotton have affected buying of cotton goods and, as the sharp advance that preceded had already checked consumption, the manufacturers have not been doing a satisfactory volume of business. Some overproduction has resulted. Southern mill stocks have held rather firm, but the securities of the New Bedford mills have suffered as a result of the poor margins of profit earned in the fine goods industry. ***It seems probable now that cotton prices will be more reasonable and stable, and this gives ground for anticipating that some of the hopes for a greater consumption of cotton textiles this season may still be realized.***

Cotton Industry Activity Index

OUR cotton industry activity indices for September, as based upon the Census Bureau's report for that month, show a 3 point decline for the whole country, as compared with an 8 point increase for the same month of 1926; a 4 point decline for the Cotton Growing States as compared with a 13 point increase last year; a 3 point decline for the New England States as compared with a 4 point increase last year; a 7 point decline for Massachusetts as compared with a 2 point increase last year, and a 2 point increase for North Carolina as compared with a 16 point increase in September, 1926.

There appears to be a very significant similarity between the course of the indices from June to and including September this year with the same months of 1923, which, in the latter case, preceded and forecast the slump in activity that started in February, 1924. In the latter cycle of maximum activity two peaks were touched, in March, 1923, and in January, 1924. The present cycle is running almost true to the form of the 1923-24 cycle, the first maximum having been touched last March, and the cycle now appearing to be headed for a second peak early next year. Whether the latter will be followed by any such slump in spindle-hour activity as occurred in 1924, when there was a drop for the whole country from 112 in January to 80 in July, remains to be seen, but the indices as charted plainly forecast a decrease in activity starting early next year and there is ample confirmation of this in the statistics compiled by the Cotton Textile Merchants' Association of New York City.

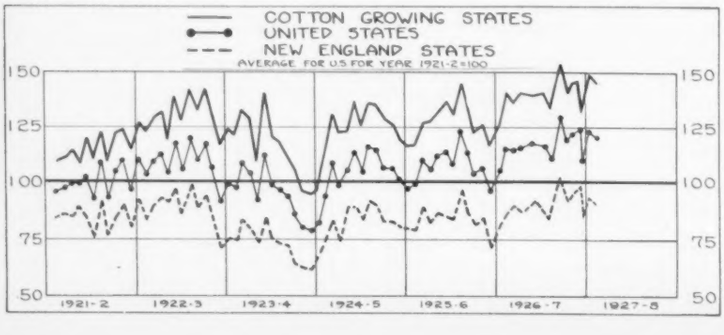
INDEX OF ACTIVITY

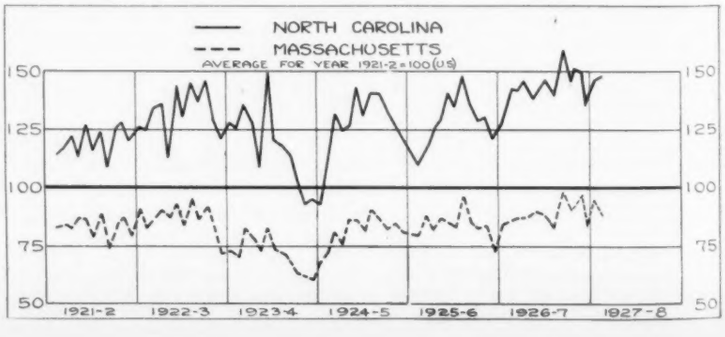
Based upon average of active spindle hours per active spindle for period September, 1921, to July, 1922, 100=226

	Cotton			
	U. S.	States	N. E.	Mass.	N. C.
September, 1922..	103	122	85	82	124
September, 1923..	98	122	76	72	126
September, 1924..	94	113	73	72	112
September, 1925..	100	116	80	79	111
September, 1926..	114	140	85	85	143
1926-27					
August	106	127	81	83	127
September	114	140	85	85	143
October	114	136	88	86	142
November	115	140	86	86	146
December	117	138	93	91	138
January	116	139	89	88	146
February	111	134	85	83	140
March	130	154	101	99	159
April	119	142	91	90	146
May	121	145	93	92	151
June	124	146	98	96	149
1927-28					
August	123	149	92	95	146
September	120	145	89	88	148

Spindle-hour activity in September, like that of preceding months of the year, ran far ahead of any similar month of previous years and these records continue to be made with from one to two million less spindles active than were operated in 1923-24 when the previous high record was established. In other words, the current record-breaking cycle of activity is not based upon the operation of a record amount of machinery, but upon a smaller amount of machinery operated at a record-breaking amount of overtime. For instance, 17,725,348 active spindles in the Cotton Growing States operated an average of 327 hours in September, produced 5,796,140,201 of a total of 8,761,346,598 active spindle hours for the whole country. In other words, 58% of the country's spindleage produced 66% of the total number of active spindle hours for the country.

The New England States operating 1,795,000 more spindles than the States of North and South Carolina combined, got out of this larger spindleage 1,251,904,790 less active spindle hours than did the two southern States combined. These and other similar figures demonstrate clearly where present records are being made, and where machine hours must be curtailed if the slump in activity that appears to be forecast is to be anticipated and offset to a certain degree by curtailed production.





WITH THE EDITORS THIS WEEK

Editors: Charles H. Clark, Vernon E. Carroll, Clarence Hutton, Douglas G. Woolf — *We Believe in the Conservation and Protection of Domestic Industries*

Thorp and Buxton

THE raising to the presidency of a member of only four years' standing and who had never held office was the unusual honor accorded this week to Col. G. Edward Buxton of Providence by the National Association of Cotton Manufacturers. Of incidental interest is the fact that never before had a citizen of the State of Rhode Island succeeded another in this office. That State, by the way, has given the association a number of its most distinguished presidents, including William B. MacColl, who has just completed the usual two year term, his father James R. MacColl, David M. Thompson, Stephen A. Knight and Hon. Henry F. Lippitt.

It is an open secret that Col. Buxton owes his selection and election in large part to the desire of the Association to have a Rhode Island man as its president next year when will be celebrated the centenary of the invention of ring spinning by John Thorp, who was a resident of Providence, R. I., 100 years ago and during the greater part of his inventive period.

Col. Buxton is just the type of man needed to visualize the possibilities of such a celebration for the industry and to organize it along lines that will give adequate recognition to the inventor and adequate publicity for the industry. Col. Buxton besides being a manufacturer and organizer of demonstrated ability, has had considerable experience as a newspaper man, and will approach the centenary problem with a knowledge that it can be utilized to provide national publicity of the utmost value only if properly organized with that in view.

* * *

A Deserved Recognition

AS a nation we are prone to delay adequate recognition of the deeds of our martial and industrial heroes until the latter have passed on to their greater reward and the historian awakens us to the importance of their accomplishments.

It is gratifying, therefore, to know that the textile manufacturer who was chiefly responsible for the development of a satisfactory wing fabric for airplanes, and the insuring of an adequate source of supply of such fabric, has been suitably recognized by the National Association of Cotton Manufacturers. We refer to the award this week of the association medal to E. Dean Walen, who during the World War was in charge of the Textile Division of the Bureau of Standards, and who is now Assistant Agent of the Pacific Mills. Equally gratifying is the placing on record by the association of the names of manufacturers who cooperated with Mr. Walen in this development.

While it may require the perspective of history fairly to gauge the value of this invention in the winning of the World War, there are ample data available to prove that the Allies would have been practically impotent in the air during the last year of the World War, had it not been for the cotton airplane cloth developed by Mr. Walen and his associates.

* * *

A Central Testing Laboratory

ONE of the most worthwhile suggestions that came out of the meeting of Committee D-13 on Textile Materials of the American Society for Testing Materials, held at Atlanta, Ga., last week, was that made by Dr. W. F. Edwards, chairman of the committee, to the effect that a central laboratory be started in charge of a technologist, where moot questions arising during the activities of Committee D-13 might be investigated and settled.

Everyone in touch with the situation realizes the tremendous value which comes from the individual testing and research laboratories scattered among the various textile mills. It is due to the efforts of the men in charge of these laboratories that Committee D-13 has been able to make the remarkable progress it has during the relatively few years of its existence. Upon them rests the burden of carrying this important work further.

Nevertheless there constantly arise problems, the nature of which requires a prolonged series of tests under identical conditions and one-man supervision. This fact is too patent to require explanation. It was just this type of problem which Dr. Edwards had in mind when he suggested that a central laboratory be established in charge of an efficient textile testing expert and equipped with sufficient apparatus to permit the competent carrying on of a series of tests.

Those who attended the meeting realize that Dr. Edwards did not have in mind a fundamental research laboratory. In fact, he did not even have in mind an industrial research laboratory where results of fundamental investigations might be applied to specific problems. On the contrary, he had in view a testing laboratory where just exactly the sort of work now being conducted by individual members of Committee D-13 in their plant laboratories might be consolidated and rendered more effective. It does not relieve those members of the necessity for further work of exactly the same sort, but merely adds another agency in the prosecution of Committee D-13's purposes.

Dr. Edwards estimated a probable cost of such a laboratory at from $3,000 to $5,000 per year, and it is probable that this is a fair range. Certainly the manufacturers who have supported the work of Committee D-13 for several years by sending their technicians to its meetings and by permitting them to devote some of their time to work on general standardization problems, would be more than glad to contribute to the support of such a central laboratory if the need for it were properly presented to them. It is to be hoped that this worthwhile suggestion will not pass into oblivion as do many other similar ideas, but that active steps will be taken to make it a reality.

* * *

The Group Idea for Wool Goods Field

DETERMINATION to appoint a super-committee of the woolen and worsted trade, representing the American Association of Woolen and Worsted Manufacturers and the National Association of Wool Manufacturers would seem to be not only a logical move but one which should issue in fruitful results. The committees appointed as a result of the industry-wide meeting several months ago to consider the so-called "Whiteside Plan" have evidently gone as far as they can without some central body to which they might report their findings. This body has been lacking, and as a consequence the committees on production and distribution have not had any particular objective nor any positive method of operation to guide their deliberations.

Representation of the two associations on a

THE TEXTILE TREND

Cotton Markets: Buyers are willing to let the goods market drift. Merchants believe trade will have to await coming of some new stimulus to start revival of activity. Raw cotton, now stronger, watched carefully. Gray goods prices ease off fractionally with orders limited and cautious. Gingham prices named for spring show advances from last previous figures of ½ to 1½c. Distribution of goods generally in markets beyond first hands continues at fair rate which aids in holding fundamental conditions healthy.

Wool Markets: Wool goods, though firm, show no sign of early return to active trading. Buyers by force of the supremacy of fancies are moving close to their needs, and retail trade has not provided the stimulus usual at this time of year for last minute trading in fall goods. Concentration of spring business on lines for popular priced suits is watched with anxiety in some quarters. New ideas in styles are at premium. Active request for worsted yarns from the sweater trade continues; less interest from weavers; prices unchanged, with medium grades strong.

Knit Goods: Reports of memorandum sales of underwear for the 1928 heavyweight season are current but unsubstantiated. Some buyers expect openings about Nov. 15. Uncertainties of weather and raw material may retard movement. Shirts and drawers still gaining. Conditions in hosiery market are little changed. Buyers seem to lack assurance and most lines are dull.

Silk Markets: Cutting-up trade shows more interest in silks for spring. Trading limited but evident search for style leaders makes silk sellers feel that cutters are willing to feature silks again rather than cottons or wool goods. Crepe-de-chines firmer. Georgettes improving. Radiums quiet. Prints a general feature. Merchants hopeful of raw silk's stability.

committee which would have the standing of a cooperative body reporting to the existing organizations in the industry follows very closely the procedure which has marked the development of cooperative effort in the cotton manufacturing industry. Such a committee would correspond in large measure to the National Council of American Cotton Manufacturers, which passed out of existence with the formation of The Cotton-Textile Institute.

Whether any similar outgrowth will develop in the wool manufacturing field cannot be foretold at this time. But whether or no an Institute with a leader from outside the industry is projected, we would suggest that the cotton industry be followed a step farther by organizing the wool goods trade into specific groups for practical action. It did not take an outsider very long to decide that in the cotton industry group action was the feasible thing, and machinery was put in motion immediately to organize such groups within the industry with gratifying success during the short period these groups have been functioning.

We can see no reason why similar division of the woolen and worsted field would not be feasible and practical. In fact, in our humble opinion, it is necessary to accomplish results. We are not prepared to say how many groups should be selected or how comprehensive each group should be but we are firmly of the belief that manufacturers of similar fabrics together with their selling agents, constituting an entity within the industry, can discuss and go a long way toward solving problems, concrete action on which would be impossible if left to a general committee or to a mass conference. Of what earthly interest, for example, are the intimate problems of the fancy cloaking manufacturer or selling agent to the maker or seller of white staple flannels? On the other hand the evils inherent to the fancy cloaking business could be frankly and intelligently discussed by competitors making the same class of goods, while conceivable action on many matters could be taken which would not only be highly beneficial to members of the group, but would also be decidedly impressive upon the buyer if he realized that such joint action came from all the sources whence he secures his merchandise. He would not be as likely under such circumstances to play fast and loose with sellers who had determined upon concerted action as he is to-day under present competitive conditions.

Whatever may be done in behalf of the wool manufacturing industry, in the final analysis success would seem to depend upon the determination of the central committee to provide a working plan, and it is our hope that consideration may be given to the idea of centralized groups concentrating upon their own specific problems which has to date proven an acknowledged success in a branch of the textile industry where problems are surely as great as in the woolen and worsted field.

* * *

A Return to Technical Discussions

A CRITICISM of the meetings of the large textile associations frequently heard is that too little attention is paid to subjects of interest to the so-called practical man. It must be admitted that the larger part of the attention of these associations in recent years has been given to merchandising and economic subjects, the importance of which the manufacturers have come to realize more than ever before. There seems to be something very difficult about arranging and successfully conducting discussions of technical matters.

At this week's meeting of the National Association of Cotton Manufacturers, however, a step was taken toward giving plant problems the attention which their importance deserves. Two sessions were largely devoted to mill methods and equipment, with speakers selected for their technical knowledge of the industry, their familiarity with plant needs, and their ability to show what actually is being accomplished in replacing older methods with new and better methods. Such practical subjects as the physical condition of plant equipment and the effect of humidity in various manufacturing departments were thoroughly discussed. As a result, those in attendance came away with more information on up-to-date plant methods than they have had the opportunity of securing from these meetings in many years. It reminded one of the conventions held during earlier administrations when technical subjects featured the association's programs. If the program of this week's meeting can be taken as an indication of the trend, the association is getting back to a recognition of the fact that internal conditions of mills—the equipment and the methods in use—very largely control the progress that can be made in reducing costs and utilizing to better advantage the skill of their organizations.

Perhaps the recent neglect of so-called technical subjects merely reflected the attitude of the industry's leaders toward vital technical matters, and the attention given to such subjects this week indicates that they are turning from a search of economic merchandising reasons for all their troubles to a further study of conditions nearer home and which are more directly under their own control. We hope that those in charge of future programs will increase rather than curtail technical discussions, and give the practical man an opportunity to learn of progress in plant equipment and methods. There are bound to be improvements along these lines, and the National Association meetings are the logical place for discussing them in the North, especially since the activities of The Cotton-Textile Institute are now along the lines toward which of later years the N. A. C. M. has been trending. The program committee is to be congratulated on the excellence of the technical features of the meeting and the wealth of information that was brought out. It has set a high mark for future meetings to aim at.

Growers Plan to Push Use of Cotton Goods

COLUMBIA, S. C.—Announcement was made last week of the organization of the Cotton Products Extension committee of South Carolina with Dr. Wade Stackhouse of Dillon as chairman and a number of well known cotton growers of the State as members. A preliminary meeting of the committee was held last week and permanent organization was completed.

The committee proposes Dr. Stackhouse said, by educational and other proper means to urge the fullest use of cotton products and to discover new uses and to resist with all the influence at its command any efforts and tendencies hostile to the cotton industry. It will work, he said, in fullest cooperation with The Cotton-Textile Institute, the Federal Government, the American Cotton Growers' Exchange and any other persons or agencies which are endeavoring to increase the use of cotton products.

Members of the committee besides Mr. Stackhouse, the chairman, are: C. J. Jackson of Hagood, B. T. Boatwright, of Johnston, D. A. Geer of Belton, G. V. Nichols of Due West, L. D. Fridy of Winnsboro, Ben M. Gramlin and C. H. Carpenter of Easley. The committee will have its headquarters in Columbia.

Dr. Stackhouse said that the committee hoped as soon as possible to form a similar committee in every State of the cotton belt and then to form a southwide overhead committee composed of one representative from each State.

"We want to sell the people of South Carolina and of the South on the idea of using cotton goods and cotton products wherever and whenever possible," said Doctor Stackhouse.

Roseknit Hosiery Co., Sumter, S. C., is moving equipment to new plant here from its old plant at 151 Summer St., Providence, R. I. Proprietors of the mill are Frank L. and Martin K. Rosenfield. Production will be on seamless novelty hosiery.

TEXTILE CALENDAR

Master Mechanics Division, Southern Textile Association, Regular Meeting, Spartanburg, S. C., Nov. 16, 1927.

National Association of Woolen and Worsted Overseers, 44th Annual Meeting, American House, Boston, Mass., Nov. 19, 1927.

Cotton Manufacturers' Association of North Carolina, Winter Meeting, Carolina Hotel, Pinehurst, N. C., Nov. 26-27, 1927.

Sixth National Power Show, Grand Central Palace, New York, Dec. 5-10, 1927.

American Association of Woolen and Worsted Manufacturers, Annual Meeting and Dinner, Waldorf-Astoria Hotel, New York, Dec. 7, 1927.

Silk Association of America, Annual Dinner, Hotel Astor, New York, Jan. 19, 1928.

Knitting Arts Exposition, Commercial Museum, Philadelphia, Pa., April 16-20, 1928.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 15-20, 1928.

Erecting Branch Plant

German Full-Fashioned Hosiery Machine Locates at Reading

READING, PA., Oct. 21.—Karl Lieberknecht, Inc., Oberlungwitz, Saxony, Germany, is erecting a branch plant for the manufacture of full-fashioned hosiery knitting machinery at Rosedale, north of this city. Operations were begun last June on a brick one-story building 350 x 110 feet in dimensions. Other units may be erected later. The plant will be electrically operated.

Information regarding the probable date of completion of the plant, number of employes needed to operate the unit, etc., is not obtainable at this time. Karl Lieberknecht, who is now in this country and who will supervise the equipment of the plant, is authority for the statement that in his opinion such a branch is necessary to take care of demand for prompt service in connection with his company's product.

Troy (N. Y.) Yarn Co. is operating near capacity in all departments with an enlarged working force.

Committee D-13 of American Society for Testing Materials, Meets in Atlanta

Holds Sub-Committee and General Sessions, and Visits Points of Interest

THE meeting of Committee D-13 of the American Society for Testing Materials, held at Atlanta, Ga., Thursday and Friday of last week, gave the members of that committee a composite opportunity to hold their sub-committee meetings, to transact their general business, to hear certain important technical papers, to inspect the A. French Textile School of the Georgia School of Technology, to visit the various points of interest around Atlanta, and to form further contacts with southern mill men interested in Committee D-13 developments.

As usual in the case of meetings of this organization, the sessions held by the individual sub-committees proved to be possibly the most important and most fruitful. Sub-committee meetings started Wednesday evening at the Atlanta Biltmore Hotel and continued through to Thursday noon. So much interest in the problems being considered by these various sections was manifested by the members that the sub-committee sessions were made general in nature so that each member had the opportunity to join in the deliberations of each group.

Outstanding Developments

One of the most important activities decided upon was the appointment of a section of Sub-Committee XXI on Raw Cotton to investigate methods for determining tensile strength and length of the fiber. This section consists of B. H. Foster, of the United States Rubber Co.; R. H. Adams, of Callaway Mills; O. G. Murphy, of the Shawmut Mill of the West Point Mfg. Co.; H. H. Willis, of the U. S. Department of Agriculture, at Clemson, S. C., and Dr. R. W. Webb, U. S. Department of Agriculture, Washington, D. C. The importance of such work has long been recognized and it is felt that the proceedings of this section will prove to be very helpful to work undertaken by other sub-committees of Committee D-13.

Still another significant activity within the committee is the investigation being conducted by Sub-Committee XI on Knit Goods toward the development of a new method of testing the strength of knitted fabrics. The equipment being considered consists of a steel plunger which pushes through the fabric and is in a way a compromise between the grab and bursting test methods. Considerable interest is being shown in further developments along this line.

Technical Papers Presented

Following the line of procedure which has become a regular part of Committee D-13's activities, a group of technical papers was presented at the Thursday afternoon session held at the A. French Textile School. This program had been developed by a special committee headed by Dean Harvey, of the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

These papers included one on "The Classification of Raw Silks," by D. E. Douty, of the U. S. Testing Co.; one on "Asbestos Textiles—Where, How and Why They Are Used," by J. M. Weaver, of Keasbey & Mattison Co.; one on "The Value of the Laboratory in a Textile Mill," by O. G. Murphy of Shawmut Mill; and, finally, one on "A Proper Basis for Technical Activity in the Textile Industry," by H. S. Busby, director of the A. French Textile School.

Each of these papers proved of decided interest to the members present. They are printed on the pages which follow.

Banquet in Evening

An informal banquet was held on Thursday evening at the Atlanta Biltmore Hotel. The cotton manufacturers of the vicinity of Atlanta were represented by Norman E. Elsas, secretary of the Fulton Bag & Cotton Mills, who spoke briefly on the importance of quality in textile manufacture. His viewpoint on this was of particular interest because the products which his mill manufactures are not of the type which might be linked in the average mind with the question of quality. Mr. Elsas pointed out, however, that his company had had had to do a great deal of research and investigation work along the line of securing the proper quality yarns, even for such coarse products as they are concerned with.

Mr. Elsas urged that Committee D-13 take up the matter of quality defects in textiles just as intensively as they do that of strength.

The other speaker at the banquet was Dr. W. F. Edwards, of the U. S. Testing Co., and chairman of Committee D-13, who took this opportunity to re-emphasize the importance of fundamental technical research in the textile industry. His paper is printed in this issue beginning on page 86.

General Business Session

The final session of the meeting of Committee D-13 was held at the A. French Textile School Friday morning and was devoted to the transaction of general business.

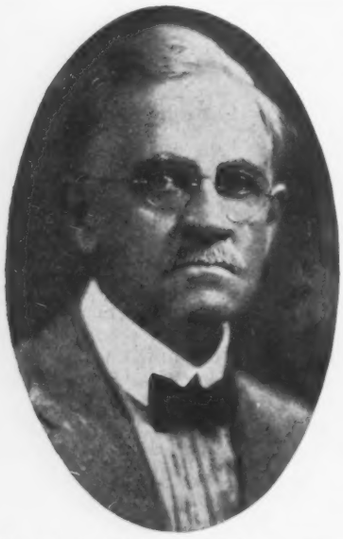
It was unnecessary for most of the sub-committee chairmen to make formal reports at this time as the members had had an opportunity on the preceding day to listen to the discussions held by the sub-committees themselves. Consequently, the time was given over to the discussion of more general problems.

One of the points emphasized at this session was the fact that there is a great deal of information and data scattered around among the various mills of the country and that one of the important jobs of Committee D-13 is to dig out this material. It was the consensus of opinion that this can best be done by the appointment of sections of the various sub-committees so that these sections might in turn tackle specific problems and secure the help of all members who might have information in their files.

Somewhat along the line of this discussion was the suggestion made by Dr. Edwards that there should be some central organization with facilities which would enable moot points to be investigated and settled. Concretely, he brought to the consideration of the members the establishment of a small laboratory in charge of some competent technologist. He

Some of the Members of Committee D-13 Who Attended the Meeting in Atlanta, Ga., Last Week

feels that this could be done at the expense of not more than $4,000 or $5,000 per year and that results would well repay such expenditure. He made it clear, however, that his suggestion was not for the establishment of a laboratory for fundamental research but for the development of just such problems of standardization



Dr. W. F. Edwards, Chairman, Committee D-13

as Committee D-13 is supposed to tackle.

Incidentally a concrete example of the possibilities of such a central laboratory was furnished in the report of Sub-Committee VII on Cotton, Yarn and Threads, presented by K. B. Cook, secretary of Committee D-13, and by L. A. Graybill, of the Bibb Mfg. Co. Mr. Graybill remarked particularly on the different conditions under which certain investigations had been conducted by this sub-committee. They have been trying to develop special specifications for tire cord, with the idea of finding out particularly what effect certain twist specifications would have. Several members of the committee had been conducting investigations along this line, but unfortunately they were done in different sections of the country, and under widely varying conditions. Mr. Graybill certainly agreed with Dr. Edwards that a central testing place for just such a problem would be extremely resultful.

This discussion led to one of the most interesting considerations of the general subject of research that has ever featured a D-13 meeting. The majority of the members present had some views on the matter and although these were not always in agreement, the discussion was a very helpful one.

Textile Finishes Sub-Committee

One of the new ideas suggested at this meeting Friday morning was the appointment of a sub-committee to consider the whole problem of textile finishes, including such matters as testing and specifications of sizes and finishes themselves, and the results produced by such materials on textile yarns and fabrics. This matter was left to Dr. Edwards, as chairman, to investigate and to see what might be done in this direction.

Next Meeting Place

As usual, the question of the place for the spring meeting of Committee D-13 was left to the special committee which handles this matter. However, it seemed to be the sense of those present that, unless A. S. T. M. group meetings interfered, a good tentative schedule would be Providence, R. I., for the spring meeting; Atlantic City, of course, for the annual meeting in June in conjunction with that of the society; and Washington, D. C., for the fall, 1928, meeting. However, nothing was decided definitely.

Guests of Georgia Power Co.

One of the most enjoyable features of the Atlanta meeting was the inspection trip arranged by the Georgia Power Co., which enabled members to visit certain of the physical properties of that company. To complete the picture, officials of this company acted as hosts to Committee D-13 at a luncheon at the Atlanta Athletic Club, immediately following these inspection trips. After the luncheon, C. A. Smith and C. E. Bennett, both of the Georgia Power Co., gave brief talks on the power situation not only as it concerns the lines of that company, but also in its relation to other power lines of the South.

A number of alternate trips had been scheduled for Friday afternoon, including visits to industrial plants around Atlanta, but members of Committee D-13 showed their relief at release from the strenuous business sessions of the preceding days by going almost en masse to Stone Mountain.

Committee on Arrangements

Credit for the development of details of the Atlanta meeting goes to the Committee on Arrangements, composed of Granby Dallis and R. H. Adams, both of La Grange, Ga.; and T. M. Forbes, Prof. H. S. Busby, Prof. C. A. Jones, J. R. Brandon, D. E. Philpott, R. L. Hill and W. L. Carmichael, all of Atlanta.

The following organizations cooperated in the programs of the sessions: Cotton Manufacturers' Association of Georgia; Georgia Power Co.; Industrial Bureau, Atlanta Chamber of Commerce; Atlanta Convention and Tourist Bureau; and Georgia School of Technology.

International Textile Research

Bearing of Certain Aspects of Problem on Need in This Country

By Dr. W. F. Edwards
Chairman, Committee D-13

THE fashion of the present time suggests including the whole civilized world in any comprehensive consideration of almost any subject whatsoever. There is much that may be said in favor of this fashion in a general way but we must not lose sight of the possibility of its being the path of least resistance and least use in some cases. The complexity or newness of a subject may make it very difficult or even impossible to treat it as an international subject to advantage before it has been brought to some more or less definite state by careful consideration as a national subject by a number of different nations, each from the point of view of its more or less special conditions.

The subject itself may be of international interest as in the case of textiles. All civilized nations are more or less intimately interested in textile raw materials and the products manufactured from them. From this point of view it may be assumed at the outset that they are interested in textile investigations from which it follows at once that textile research has an international aspect though of only the most indefinite kind.

Textile research from the modern scientific point of view, however, is a very complex and far-reaching subject, embracing as it does all kinds of textile raw materials and the great variety of manufacturing processes used in producing a long list of finished products for a great variety of uses and it is comparatively new to many nations insofar as any well considered orderly approach to a comprehensive program of industrial research is concerned so that its international aspects are not so evident.

A somewhat definite understanding of the nature and fundamental purpose of research is necessary at the outset in order to discuss intelligently its inter-

A. M. Tenney, 1st Vice-Chairman, Committee D-13

national aspects. The word "research," like the word "service," is on every tongue and like the word "service" is understood in a variety of ways, depending to a quite considerable degree upon the background of the user. It may be said at once that there is probably something desirable in any one of the many ideas that have grown up around the word "research" but that there is one best meaning which we should endeavor to determine with some degree of probability before proceeding to discuss a possible general program of research on any subject. As a matter of fact there are two fairly distinctive types of research quite generally recognized at the present time though neither entirely excludes the other. These two types are not easily defined concisely but may be distinguished roughly as (1) researches in which industrial applications and profits are quite secondary considerations and (2) those in which industrial applications and profits are given first place.

Fundamental Research

The first type is universally recognized and the lexicographer might define it as a systematic, diligent and protracted investigation for the purpose of adding to human knowledge or for the purpose of explaining phenomena and thus bringing them under principles or laws. Such research is usually thought of as following modern scientific method and as being more or less academic and carried on for the most part in universities, colleges, and endowed institutions such as the Rockefeller Foundation for Medical Research, The Carnegie Solar Physics Research Laboratory at Mt. Wilson and other institutions supported for the greater part by the income from private donations for benevolent purposes.

Industrial Research

The second type known as industrial research is a high order of research directed by a staff of men experienced in researches in the fundamental sciences such as physics, chemistry, biology, etc., but directed mainly to a single purpose, that of increasing profits by improvement of the quality of raw materials, of the manufacturing process, of the finished product, by elimination of waste, by development of new products, etc.

The laboratories of the university, college or other institution wherein the first type of research is carried on is often called, aptly I think, a divergent laboratory, i. e., a laboratory or system of co-ordinating laboratories wherein any problem that gives promise of adding to the total of human knowledge is attacked without any consideration of its relation to other problems that may be undergoing investigation simultaneously and independently by other persons in the same university or college. In brief, individual initiative and personal preference characterize the kind of problem and the method of attack. In such laboratories it is advisable to guard against a too great proportion of half baked projects by poorly trained and inexperienced men whereby the funds and facilities for research may be frittered away and investigations on real problems by well trained men of large experience and mature judgment are much handicapped or postponed indefinitely.

The laboratories in which limited industrial researches are carried on are in contradistinction called convergent laboratories, in which all the investigations are co-ordinated and directed to a single purpose and in which individual initiative and personal preference are more or less subordinate characteristics of the investigations. Whenever these industrial laboratories are equipped and staffed to attack any problem, no matter what its nature, coming up in the operation of the plant it becomes rather more the divergent than the convergent type.

Laboratories like those of the Rockefeller Institute or the Carnegie Institution taken together are really groups of convergent laboratories following to

(*Continued on page* 91)

some extent the method of the divergent laboratories of the universities. The convergent laboratories of these groups may be widely separated. For example, the Solar Physics Research Laboratory at Mt. Wilson, The Laboratory of Terrestrial Magnetism at Washington, The Laboratory for studies in marine biology at Tortugas are all laboratories of the Carnegie Institution.

The researches from the divergent laboratories of the universities and colleges and of laboratories such as those of the Rockefeller Institute and of the Carnegie Institution and like ones of other countries may be considered of international scope inasmuch as the results of their work are freely published and the publications are accessible to all civilized countries.

Become Truly International

The researches become often truly international in the follow up. As an illustration of how far reaching and surprising such follow up may become, I will cite the discovery of an orange line in the spectrum of the sun taken in India in the year 1868 on the eclipsed sun. This line could not be reproduced by any known terrestrial substance under any known condition and Lockyer assumed a new substance and called it helium. Within a short time several other new lines were found in the spectrum of the sun none of which corresponded to any line then produced by any known terrestrial substance. Twenty years later, in 1888, Dr. Hillebrand at Washington, while experimenting with the mineral uraninite, found that it gave off a gas which he finally concluded was probably only nitrogen though at times its spectrum seemed to show lines not to be accounted for by any known element. Six years later Lord Rayleigh and Professor Ramsay announced the discovery of argon. This led to a further investigation of Hillebrand's nitrogen from uraninite by Professor Ramsay, who to his surprise found it to give the orange line found in the spectrum of the sun in India in 1868. This was followed by further investigation by Lockyer, who found that this gas from uraninite gave all the unknown lines of the spectrum of the solar atmosphere. Today helium is a known terrestrial substance produced in quantity though not from gases easily traceable to uraninite, and is of industrial importance and may become of sufficient industrial importance to warrant convergent industrial research.

This example is unique in some respects but otherwise is only one of a great number of instances that could be cited to show how far reaching may be the outcome of an unexpected discovery made while carrying on an academic investigation. Indeed, it is not too much to say that the academic researches in institutions of learning scattered all over the world have been a most potent factor in promoting advancement and improvement in all kinds of industries, notwithstanding that it lacks the continuity and concentration of convergently directed effort that is now considered so essential to the success of any modern industrial research.

Examples of Results

The textile industries until quite recent times have been almost wholly dependent on the scientific, academic researches of the institutions of learning and are still to a very great extent depending on them. A couple of examples showing how an academic research with no consideration of textiles at all has brought about a revolution in the industry and has led to the development of a branch of the industry of sufficient extent and importance to require quite pretentious convergent laboratories for industrial researches on problems pertaining to this particular branch of the industry, will throw light on modern industrial development of the textile industries through research.

A revolution in the art and practice of dyeing as well as an important new industry was ushered in by the discovery of mauveine by W. H. Perkin, a young student of chemistry in 1856. At this time people were investigating tropical regions to a quite considerable extent and had learned the value of quinine as a specific in warding off malaria and also that it was costly and crude aniline had only recently been prepared cheaply from coal tar. Perkin was interested to make a cheaper quinine and undertook for some reason to make it from the cheap crude aniline by oxidation with potassium permanganate. The black viscous mass resulting from such experiment would not give one any confidence that it contained quinine but it was extracted with the solvent ethyl alcohol. No quinine was found as a matter of course but the extract showed a violet color which was found to color wool and silk the same bright color. Practical dyers were interested and soon found the color could also be produced on cotton when it was mordanted in the usual way with tannin.

This practical application of mauveine excited great interest and led to investigations of the action of other oxidizing agents on crude aniline in many of the laboratories of Europe and a few elsewhere, which resulted in the commercial production of magenta in France in 1859 which was followed by the introduction of the arsenic acid process and then the nitrobenzol process which was followed by the production of aniline black, rosaniline blue, suffranine, Bismarck brown and other dyestuffs, all by empirical methods before Kekulé published his benzene structure theory in 1865.

Dean Harvey, 2nd Vice-Chairman, Committee D-13

This benzene structure theory started the dyestuff industries on a scientific base which was soon followed in 1869 by the production of alizarine by Perkin in England and by Graebe and Liebermann in Germany, the first plant dyestuff to be made synthetically from coal tar.

This development might be carried with interest to the present time but it would require too much time and is not necessary to my purpose of indicating that divergent academic researches become of international interest through publication and that the convergent industrial researches follow whenever there results an industry whose output becomes extensively used and important.

The follow-up interest in the discovery by Pelouse in 1838 that paper treated with cold concentrated nitric acid increased in weight and when dry possessed explosive properties, will disclose how another important textile industry grew out of a discovery that did not show anything at the time of the discovery to suggest that it would become of great value to the textile industries.

The researches that followed this discovery resulted in the discovery of gun cotton in 1846 by Schoenbein at Basle and apparently independently by Boettger and Otto in Germany. Menard of Paris in the same year produced collodion, an ether alcohol solution of gun cotton which indicated that there was widespread interest in and researches on Pelouse's discovery.

Schoenbein suggested the use of gun cotton as a substitute for gun powder but it proved futile as a propellant of projectiles until it was used in the form of a gelatinized emulsion in cordite as devised by Sir Frederick Abel in 1891. Meanwhile an enormous amount of research was carried out on solutions and emulsions of nitrates and other esters of cellulose which resulted in several enormous and valuable industries such as the explosives, collodion lacquers, varnishes and emulsions used in photography, textile fibers resembling silk, celluloid and others.

Some of these industries were a long time in coming to fruition after the discovery of the substance. For example, the textile fibers now called rayon were introduced in a practical way by the use of an ether alcohol solution of gun cotton as described by Andemars in a patented process for the production of artificial silk in 1855, but it did not excite any general interest in the textile field until the exhibit of artificial silk by the Chardonnet process at the Paris exposition in 1889.

These two examples indicate quite clearly how a discovery in any country can by means of free publicity create interest which leads to further researches in divergent laboratories scattered over the whole civilized world and also how great industries of great importance may grow out of these scattered researches which in turn may lead to the modern concentration industrial researches in the convergent type of laboratory.

These scattered convergent laboratories taken together cover every field of scientific investigation and are cooperative through publication but they are devoted for the most part to academic scientific researches. Further cooperative action of these divergent university laboratories to embrace convergent laboratory annexes for the purpose of solving industrial problems in a simple and comparatively inexpensive way has been proposed from time to time and the fashion of expanding to cover everything that will add to bigness has made it appeal in some measure to some institutions of learning.

I consider such annexes to the university or the use of the scientific staff of the university as a directing body for directing the industrial researches as a menace to both the university doing it and to the research interests of the industry depending on it. Industry should find a way to work out its own problems without asking from the universities more than they are already doing as indicated above which does not place any handicap on academic and scientific training of students and scientific researches which do not look to financial rewards and industrial profits.

Kenneth B. Cook, Secretary, Committee D-13

International industrial research sounds well but is, I believe, highly impractical from any other point of view than that of free publicity. Any other way implies international cooperative financing and staffing of a comprehensive program and laboratories of the convergent type which I believe would take on so many divergent phases that it would be found impossible of accomplishment even for one of the simpler industries to say nothing of an industry of the complexity of the textile industries taken as a whole. I should like to touch for a moment in conclusion on another international aspect of publicity relating to textile researches. The September 1927 number of the *Journal of the Textile Institute* has two abstracts under the general heading "Commerce, Economics, Labour, etc." One is an abstract of "The World's Research Activities" by J. C. Withers and the other is an abstract of "Standardization of American Textile Goods" by E. T. Pickard. I shall quote very briefly from these abstracts. From the first: "After five years it has been definitely established that England is leading the world in textile research —. Many American textile investigators will agree, however, that the U. S. are poorly represented by researches of fundamental value." From the second: "Up to the present, standardization has not made much progress in production or the mechanical methods of production in the cotton industry in the U. S. A. but enormous progress has been made in simplification and elimination of waste. By the elimination of unnecessary sizes, styles, types and patterns large savings have been effected." This is followed by a lot of detail of reduction in number of kinds and sizes of a number of products.

That the United States has a poor showing of textile researches of fundamental value and that it stresses fewer sizes of cotton ducks and fewer sizes of

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packing boxes for hosiery, etc., to the almost complete exclusion of researches of a fundamentally basic bearing on the development of the textile industries, must be admitted by any careful student of the subject.

I wish I could look forward with confidence that the United States could say five years hence that it is now definitely established that the United States is leading the world in textile research. Before we can take such leadership it is necessary to develop the spirit for such leadership. We have the scientific and organizing ability and we have the money, all of which can easily be put into action when the spirit of the desire and need of it have been aroused.

Value of Laboratory in a Mill

Some Examples of the Practical Effectiveness of Such a Department

By O. G. Murphy
Shawmut Mill, West Point Mfg. Co.

TO students of geology and the history of man, one phase of interest has been to note the different ages through which the organic and inorganic world has come. Each age has contributed its contribution, especially is this true in the life of man. Thinking in terms of ages causes us to say that we are today really entering the age of scientific research in the world of manufacturing. It is only in the last years that the producers and consumers have awakened to the latent possibilities in their product or supply. Even more recently the value of standardizing has come to be appreciated more, as we are assured of the same quality of product day after day; and standard formulas for testing have been and are being developed so as to more intelligently make and check specifications, thereby removing one unnecessary source of friction between the consumer and source of supply.

The coming of the laboratory into the field of cotton mills was an epoch in the life of the industry. For so many years the industry had followed the beaten path our fathers trod that we had grown into a state of coma. To prove our statement, we ask you to go back ten years, then review the industry for fifty years and see how slowly the trade accepted any change. Why, whole sections of the industry refused to accept the automatic loom for years. It was only after economic conditions forced them to do something that they were roused from their apparently drugged condition. Why, one could name mills that burned oil lamps long after electric lights had been proved better and more safe.

When the consumer first began to make certain demands that were new, the men in the mill took the position that it was all tomfoolery and unnecessary. It was only when the managers put over to them that the customers had a right to make demands that they felt necessary that the men behind the guns began to take a real interest. As might be expected, some of the demands were impracticable, but the results obtained were so much more than dreamed of that the old guard was shaken out of its position of knowing it all.

We do not desire to give the impression that the industry was dead, neither do we wish it thought that we consider the men at the head of the industry in the past as men lacking in vision, for we must not forget that it was the duty of these men to make the industry pay dividends, and they did. The industry grew in leaps and bounds under their skillful management. But the age of scientific analysis had not arrived, although the eastern sky was already turning pink telling of the coming of a new day. As the sun climbs higher, more of our mills are seeing the path clearer and are equipping themselves to get the answers that the trade is demanding.

What We Are Learning

In these days, with the aid of the mill laboratory, we are beginning to learn things about humidity,—the right condition for the best running work in the different processes, better control of weights by considering the per cent of regain in the picker house, the absorbing abilities of cotton of different characters, how different fabrics in process will have more or less regain when exposed to the same condition, the action of moisture on the tensile strength of yarns and fabrics. We are learning where some of our invisible waste is going. Some day we will build mills that will carry a real standard condition without the cost being prohibitive, and we shall learn how, in production, to get the water back into each fabric that nature intended cotton fabrics to contain.

Right at the plant we are getting facts about size compounds, what they contain, just how they do or do not penetrate the yarn, how they absorb moisture. We are studying the cotton fiber from a practical standpoint,—its convolution, the percentages of variation of length in the same sample, establishing the minimum amount of short staple permissible for different length staples to give the results desired, the effect of length as against character. We wish to state right here that in the future character is going to be a more important factor than in the past. We are badly in need of some mechanical method to judge character. At present we men at the mill are being dependent on the cotton grader's judgment. The information obtained about variation in length has caused some of us to feel like questioning somewhat this method.

We are removing the guess and getting quick action on experiments made in the mill by being able to standardize on a humidity condition in the laboratory. Further, by checking the cotton closely for variation and testing under a standard condition, we get a line on the efficiency operation of the different machines. At the same time, the laboratory can do the sizing and testing of the yarns in process, setting the testing room to the condition of the spinning room when the yarn is taken from the frames—this very important duty being taken from the spinner and performed by a disinterested party.

The Question of Twist

In the matter of twist in the single yarn, we are gaining headway, establishing the best multiples for different yarns and different cottons. It is very interesting to make experiments with multiples from 3.00 to 5.50 and watch the line rise and break, then taking these yarns of the different multiples and ply them from two to fourteen-ply, using different plied twist multiples and see sometimes the surprising results—surprising because of the difference from old ideas. Why, we can remember only a few years back when, to decide the right twist in the ply, about two feet of yarn would be pulled from the bobbin, and holding an end of the yarn in each hand, we would bring the hands close together. The action of the yarn as it twisted on itself would decide whether there was or was not enough twist.

In some fabrics there is a tension at which to weave that will improve the strength of the fabric. Beyond this point or short of it, the results will not be so good. A great many fabrics carrying the exact construction will not break the same, the wider fabrics being weaker. By having a laboratory right in the plant that can give you a standard atmospheric condition, you remove this great variation in strength. Although all cotton yarns and fabrics will vary a great deal, this variation being in evidence even with controlled atmospheric conditions, still your tests are getting the answer more quickly and more accurately.

After having had a practical mill laboratory under observation for seven or eight years and seeing the results obtained in testing from five-yard sheeting to 12/0 duck, we are opossed to a correcting formula that does not take into consideration the weight and construction of the fabric. We realize the force of the argument that with the same fabric we relatively get the answer, but there are times in actual practice when the consumer makes demands for certain strengths when relative figures are unobtainable. You have no starting point. Some of you may say, "That's silly, boy. You don't seem to know anything." But, gentlemen, we ask you in all seriousness, "If a laboratory does not furnish you accuracy, why a laboratory?"

As we expressed to Dr. Edwards, our chairman, several years ago; "If the A. S. T. M. is going to furnish standards that the trade can accept, it is a pity that we cannot make a standard atmospheric condition that will be high enough for the smaller plants to put in an equipment that will be in keeping with the size of the plant and its finances." It is no trouble to put in water, but from the equipment standpoint it is entirely a different proposition to take it out, in fact, almost impossible except with an expensive equipment.

Should Explain Standards

Committee D-13 is certainly being of help in the field of industry that it is trying to serve, but we would like to say in a spirit of constructive criticism, that as we desire the standards worked out by the committee to be adopted by the trade, we should be very explicit in telling why we have advanced the standards as models.

To illustrate, take the standard grab test method of 6" x 4", 3" between jaws, separation speed 12" per minute. Why do we recommend a piece of cloth 6" x 4", why jaws 3" apart, why 12" speed? In a concise but intelligent form, tell the hard-boiled American business man who insists on knowing, why just why we suggest these standards. We suspect that a large number of mill executives who have been very successful, that have worked up through the mill, look upon us somewhat as theorists. Why not meet that type with an argument that will appeal to their method of thinking? In making tolerances, tell why these tolerances are fair and necessary.

One other point along this line, and to be explicit I am sure you will pardon a personal reference, my entire work-a-day life with the exception of two years has been spent in a heavy duck mill, and during the last ten or twelve years this branch of the industry has been going through such a period of revolution that our entire time and thought have been concentrated on our own line. When we joined the A. S. T. M. we were placed on the Yarn Committee. Of course, we know how to manufacture good yarns, but we are not sufficiently acquainted with the demands and needs of the yarn consumer to feel a freedom in expressing our opinion, while in our own field we would, as the boys say, "know our vegetables." So we feel that if the committee is to get the kind of benefit from its members that it needs, the placing of a member on a committee should be done with care and thought.

Please do not get us wrong; we are not critical nor do we mean to criticize anyone or group, but from our own experiences we are trying to give you a viewpoint. If there are any mill men present who have not put in a plant laboratory, let us urge you to do so, for the laboratory has come to stay. To intelligently know what you are doing in this age, and even more so in the future, a laboratory is and will be as necessary as your picker house.

For the head of your laboratory, pick a man who knows the inside of the mill, a man who is accurate. Place him independent of anyone who might hinder, and then impress upon him the fact that you want the laboratory's answer and not the answer you are trying to get, for that phase of the question is up to the inside of the mill. A laboratory should improve your product, help to reduce your cost, and allow you to ship a finished product that you know is right.

We, of course, are in business first to make money. At the same time we should be sincere in wishing to serve our trade. We should not deliberately do anything to injure those who have shown their confidence in us by giving us their business. Consequently, anything that will help us do these things is something that we should not pass up.

Standard Raw Silk Tests

Applying A. S. T. M. Methods to Raw Silk Standardization

By Dr. D. E. Douty
U. S. Testing Co., New York City

ONE of the cardinal principles upon which the organization structure of the A. S. T. M. has been erected during the last 25 years, is producer-consumer cooperation. Starting from contract points of mutual interest upon which they could agree, the producer and consumer interests in the Society, stabilized by the neutral influence of a small proportion of independent technicians, have gradually advanced into fields, formerly looked upon by them as conflicting, and confidential. The committee organization plan of the Society

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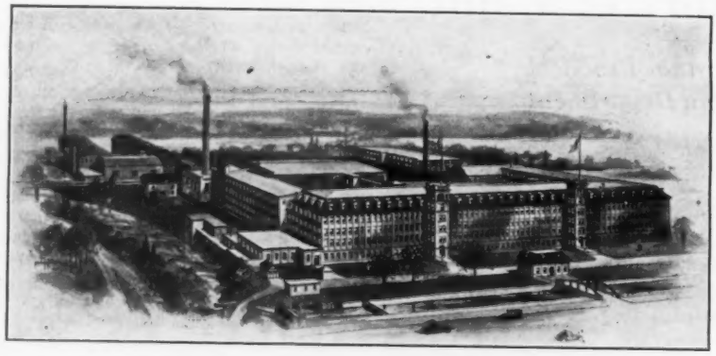

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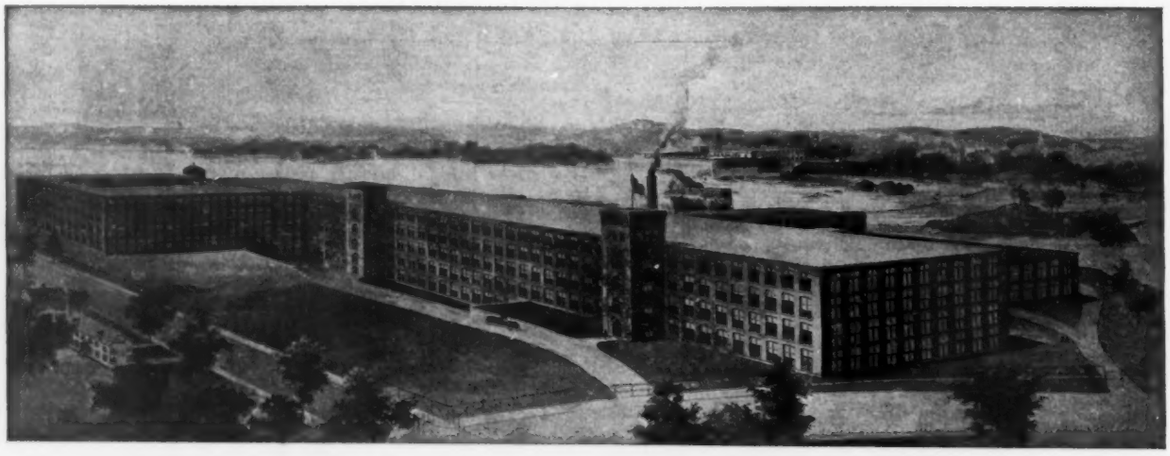

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is based upon this producer-consumer-independent technician-balanced power which has contributed so largely to the Society's success that it may quite properly be referred to as the A. S. T. M. method of standardization.

In the silk industry, very limited attention has, until recently, been given to standardization of materials. The various silk associations in Europe and America have drafted and developed official rules and regulations governing transactions in the various forms of their materials, but these have in general constituted merely codifications of trade practices and customs and have applied more to methods of merchandising and delivery than to the materials themselves. The Silk Association of America, Inc., has some excellent rules, regulations, and standard sales contracts governing transactions in raw silk, thrown silk, spun silk, and commission throwing, i. e., yarn making, but these are concerned mostly with standardizing the form, method of execution and adjustment of the sales contract.

Allowance for Moisture

REGAIN—There has existed in the silk industry for many years and internationally recognized and adopted standard allowance for moisture. This allowance or standard regain is 11% of the dry weight of the material. The weight found by adding this allowance to the absolutely dry weight of the merchandise is called, by the silk trade, "conditioned weight." "Standard weight" would be a much better term.

There has also existed for sometime, a number of simple tests for the measurement of some of the physical characteristics of the raw materials of silk manufactures, a general understanding of the manner in which these tests should be made and the types of apparatus to be used. Only limited progress has been made in establishing an official interpretation of the results of these tests as measures of quality.

Raw silk and silk yarn are expensive materials and yet, until recently, no progress has been made in establishing a standard grading of the material for quality nor in defining quality by means of standard specifications. In the various raw silk markets of the world there have been groups of trade names supposed to represent a series of grades or qualities, but these grades have never been defined, and they were arrived at by a type of inspection depending upon the individual judgment and experience of the inspector and the reputation of the producer.

Lack of Definition

The American silk manufacturers, who are raw silk buyers, purchase from $400,000,000 to $500,000,000 worth of raw material for their mills mostly by means of undefined trade-names.

Recognizing the increasing confusion, misunderstanding, and disputes arising from these conditions, the Silk Association of America, Inc., in the spring of 1915, decided to designate a Raw Silk Classification Committee to study the subject and attempt to formulate a series of grades which could be officially adopted. The Committee was organized, through appointments by the president of the association, along the lines of producer-consumer cooperation practiced by the A. S. T. M. An independent technician, member of the association and of the A. S. T. M., was designated as chairman.

The Raw Silk Classification Committee began its labors in June, 1915. It became evident at once that the Committee was in the same position as Committee D-13 at its beginning; there were as many opinions as there were members and each thought that his way was the only correct one. He likewise felt that his chief concern was to protect the interest of the firm and the side of the market he represented.

The Committee were, however, unanimously agreed upon one rather elementary, self-evident assumption; that the quality of a piece of woven or knitted silk fabric was directly dependent upon certain physical characteristics and defects, which could be directly traceable to corresponding physical characteristics and defects in the raw silk from which it was made. Starting from this accepted hypothesis, they proceeded to consider the various physical characteristics required in silk manufacture and the methods and apparatus by which the characteristics might be measured in the raw silk. A group of cooperating laboratories was formed and comparative studies of various methods of testing were undertaken. In order to develop a spirit of cooperation within the Committee, some of the simple tests upon which there was already fair agreement were taken up. Test methods were formulated, laboratory blanks were designed and apparatus standardized. As each unit of the development reached a fair degree of agreement and completion, it was accepted temporarily and set aside to undertake some other feature upon which there had originally been wider disagreement. When the field had been quite completely studied in this way and series of tests had been developed, the Committee undertook to divide the market run of raw silk into a number of grades defined in terms of those characteristics which could be measured.

First Classification Report

In June, 1921, six years after its organization, the Raw Silk Classification Committee made its first formal report to the Silk Association of America.

The subtitles of the title page sound like a publication of the A. S. T. M.:

Standard Tests for Raw Silk
Tentative Standard Tests for Raw Silk
Tentative Classification for Italian, Japanese and Chinese Steam Filature Raw Silk
Specifications for American Standard Raw Silk Skein

In the transmitting letter, the Committee states:—

"The Tentative Classification, as recommended, represents the best composite opinion that can be secured in the Committee at the present time. It has received the unanimous approval and support of the individual members and is recommended for approval with the understanding that as the knowledge of the Committee upon testing of silk and the application of test results increases and expands, this Classification may be amended and amplified."

Does this not describe quite accurately the spirit in which much of the subcommittee work in Committee D-13 is finally reported.

With the publication of this report in the fall of 1921, the Raw Silk Classification Committee suspended its meetings to afford an opportunity to try the recommendations of the report.

The work was resumed in October, 1924, with a committee enlarged to 16 members and with nine cooperating laboratories. In the interim, considerable development work had been done by individual members and the team-work which had been developed during the first period had completely vanished through the desire of individuals to again secure the approval and recommendations of the Committee for methods and equipment which they or their organization had developed. The addition of new members had, likewise, weakened the spirit of cooperation within the Committee.

Using the former report as a basis for attack and proceeding as in 1915, along lines where the antagonism was least and the problem of agreement less difficult, the group of contending interests and individuals were gradually drawn into a body which functioned quite effectively as a deliberative body.

Second Report on Classification

From October, 1924, to August, 1926—98 weeks, the Committee held 33 meetings or an average of one meeting every three weeks, including the summer months. Probably no committee of the A. S. T. M. ever considered in conference a mass of laboratory data equal to that presented to the Raw Silk Classification Committee of the Silk Association of America, Inc. The net result was the submission to the Association, Sept. 1, 1926, of a Second Report containing: *"Tests for Raw Silk and Classification of Raw Silk."*

This Second Report was approved by the Board of Managers of the Association Sept. 15, recommended for use and ordered to be printed.

It is to this report, the final result of eleven years of committee work, interrupted by one three year period of inactivity as a committee but not as individuals, to which I wish to direct your attention.

Tests and Test Methods

The tests upon which the R. S. C. Classification is based are: the Sizing or Fineness Test; the Serimeter or Serigraph Test, for strength, elasticity and elongation; the Inspection Test for evenness and cleanness; the Gage Test for reeling defects.

The Committee also recommended 21 definitions, supported by photographic illustrations of defects in raw silk and two supplemental tests, one for cohesion, the other for winding quality, both designed to show the action of the silk in passing through the mill operations.

Sizing Test—Fineness

The *Sizing Test* for raw silk corresponds to the Count or Number Test for Cotton Yarn.

The size or denier of raw silk is expressed as the weight in deniers of a standard length, 450 meters of the thread, while cotton count is the number of hanks in a standard weight, one pound.

The test, therefore, consists in making a number of test skeins, 30, and weighing them in denier, first collectively, then individually. The individual weighings show the uniformity and range of the raw silk for 450 meters. The Sizing Test is one of the oldest quality tests.

Serimeter or Serigraph Test

This test is a tensile strength test. On the serimeter it is made on a single strand 50 cm. long, 100 breaks, the total breaking load and elongation at rupture being recorded. The *Serigraph Test* is made on 200 or 400 strands simultaneously, corresponding to the lea test for cotton yarns. The record is autographic and shows the elongation, ultimate strength, and a faintly defined yield point.

Inspection Test for Evenness

The Inspection Test is a visual test, influenced very much by the personal equation of the estimator.

While the sizing test shows the variation in uniformity between the 30 test skeins, the Evenness Test shows the shorter variations within the length of a single sizing skein.

It is made by winding, with very uniform spacing, a panel of 330 meters to 665 meters of raw silk thread, depending upon the denier of the specimen, from each of ten different skeins, upon a board or card with black surface and estimating the evenness of each panel when compared with a set of standard photographs.

The standard photographs are issued by the Silk Association and consist of seven panels evaluated from 100% even to 10% even in steps of 10% and 20%.

For this test 20 skeins are taken as sample from a bale. From each skein two panels are wound onto the inspection board, making a total of 40 panels per test.

The evenness is expressed by the average of the forty panels and by the average of the ten low panels. This last is called the Penalty Average because, if it falls below the general average a considerable amount, it indicates some panels very low in evenness, showing that the silk is very irregular.

Inspection Test for Cleanness

This is also a visual test, consisting of a count on both sides of the 40 panels of the Major Reeling Defects as defined and illustrated in the Committee Report. There is a set of standard photographs consisting of six small photographs.

Each major defect in the 40 panels is evaluated at a given percentage which is subtracted from 100 per cent to arrive at the Cleanness percentage.

Inspection Test for Neatness

Raw silk always contains a number of smaller defects, which do not affect the appearance of the finished goods to any great extent. They do, however, affect very decidedly the manufacturing and finishing operations. These Minor Defects are defined and illustrated by photographs and are expressed in the Inspection Test as Neatness.

Neatness is estimated by comparison with three standard panels rated 80%, 60% and 40%.

Defects Test

The Defects Test is an actual determination by count of the Thread Defects, Major Defects and Minor Defects.

The gage, by means of which these defects are found, consists of two pieces of steel accurately ground to a plane surface and bolted together in such a way as to form a long very narrow V-shaped slit. The raw silk thread is passed through this slit at a point at which two plates are separated a distance corresponding to the average diameter of the silk of that denier. The gages are graduated to read direct in deniers and ten gages constitute a set.

The laboratory operator passes 30,000 yards through the gages, catches and classifies the defects and reports their number and nature. The maximum number of "Thread Defects," "Major Defects," and "Minor Defects" per 30,000 yards, which may be present, is specified for each grade of the Classification. No attempt is made to express the defects in percentage as is done in the Evenness, Cleanness, and Neatness tests.

R. S. C. Classification

The Classification consists of seven grades, viz., Triple Extra, Grand Double Extra, Crack Double Extra, Double Extra, Extra, No. 1 and No. 2. These grades are based, as shown in the left-hand column of the table, upon six characteristics. To be rated in a certain grade, a raw silk must comply with the minimum requirements of each and all characteristics. If, however, a purchaser does not require all the characteristics in his raw silk, he may select the particular characteristics in which he is

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interested and specify those, making the remainder optional.

While all of the grade names except the highest, Triple Extra, and lowest, No. 2, are the same as names used in the present market grading, the Committee did not intend that the market grading should conform to the R. S. C. grades. The R. S. C. requirements are higher than the market grading by ordinary inspection and much more exacting in grades below Crack Double Extra. If a purchaser wishes a raw silk to conform to the R. S. C. specifications, he must state so definitely in the sales contract. The R. S. C. Classifications can be used in purchases under the Raw Silk Rules of the Silk Association of America, Inc. only when definitely specified.

The R. S. C. table is given below:

R. S. C. CLASSIFICATION §

Tests	Triple Extra XXX	Grand Double Extra GXX	Crack Double Extra CRXX	Double Extra XX	Extra X	Number One No. 1	Number Two No. 2
Evenness by Inspection (40 Panels)							
Evenness Average shall be not less than	90%	85%	80%	75%	65%	50%	Below No. 1 in Any Particular
Penalty Average (Average of 10 low) shall be not less than	80%	75%	70%	65%	50%	30%	
Triple Extra, only. No panel less than	.....	.....	.....	.....	.....	.....	
Cleanness by Inspection (40 Panels)							
Cleanness percentage, by deducting penalties (See Note below) from 100%, not less than	95%	90%	85%	80%	75%	70%	Below No. 1 in Any Particular
Neatness percentage by comparison with standard photographs, not less than	90%	85%	85%	80%	75%	60%	
Defects by Gages (30,000 yards), up to Average 21 denier							
Thread Defects: not more than	10	20	30	40	55	70	Below No. 1 in
Major Defects: not more than	5	10	15	20	30	45	Any Particular
Minor Defects: not more than	85	110	135	175	225	300	
Strength *either* by Serigraph							
Strength grams per denier not less than	3.5	3.5	3.5	3.3	3.3	3.0	Below No. 1 in
Elongation not less than	20%	20%	20%	18%	18%	16%	Any Particular
or by Serimeter							
Strength grams per denier not less than	4.0	4.0	4.0	3.8	3.8	3.5	
Elongation not less than	20%	20%	20%	18%	18%	16%	
Size — Uniformity, on 450 meters							
Size Variations	bale†	bale†	bale†				
Average 9-12 denier not over	.4 d.	.4 d.	.4 d.				
Average 13-18 denier not over	.5 d.	.5 d.	.5 d.	.5 lot* 1.0 bale†	.6 lot* 1.0 bale†	.7 lot*	Below No. 1 in Any Particular
Average 19-22 denier not over	.8 d.	.8 d.	.8 d.	.9 lot* 1.2 bale†	.9 lot* 1.2 bale†	1.0 lot*	
Average 23-25 denier not over	.9 d.	.9 d.	.9 d.	1.0 lot*	1.0 lot*	1.0 lot*	
Average 26-31 denier not over	1.0 d.	1.0 d.	1.2 lot*	1.2 lot*			
Uniformity Range							
Average 9-12 denier not over	4.0 d.	5.0 d.	5.0 d.				
Average 13-18 denier not over	5.0 d.	6.0 d.	6.0 d.	6.0 d.	7.0 d.	8.0 d.	
Average 19-25 denier not over	7.0 d.	8.0 d.	8.0 d.	9.0 d.	10.0 d.		
Average 26-31 denier not over	8.0 d.	9.0 d.	9.0 d.	10.0 d.			

† bale means on each bale. * lot means on the lot. d. means denier.

Note — In calculating the Cleanness percentage, deductions from 100% should be made as follows:
Deduct 0.5% for each *waste, bad cast, long* or *large slug, long knot, very long knot.*
Deduct 0.1% for each *small slug, heavy corkscrew.*
§ Second report of the Raw Silk Classification Committee of the Silk Association of America, Inc.

Asbestos Textiles and Their Use

A Survey Showing Where, How and Why These Materials Are Employed

By J. W. Weaver

Chairman, Sub-Committee XVI of Committee D-13

Asbestos Yarn: Asbestos yarn is produced in a variety of sizes and in various qualities. Sizes for commercial requirements run from 1-cut to 30-cut, though sizes under 5-cut are rarely called for. Five-cut yarn measures 500 yards to the pound with a tolerance of 50 yards under and 50 yards over; 30-cut runs 3000 yards to the pound with a tolerance of 100 yards minus and 100 yards plus.

Asbestos yarns are made by spinning selected grades of asbestos fibre into single strands. The yarn is given additional strength by twisting two or more plies together, producing, thereby, a product known as 2-ply, 3-ply, etc. For still greater strength, and for particular purposes, asbestos yarn may be spun with copper, brass, or other fine wire, producing "metallic yarn." The wire used is .006, .007, and .008, and a wire tolerance of one number plus or minus is required.

Asbestos Packing: Asbestos yarn is used in the production of various forms of asbestos packing for valves, steam engines and pipe lines, air pumps, and gasoline pumps. In fact, asbestos packing is suitable for most every purpose where packing is required. The yarn for packing purposes is seldom used in the yarn form, but is worked up into twisted or braided valve stem packing, into braided forms that are compressed into rings, or into cloth that is subsequently coated with rubber compound and folded or wound into various forms of packing for high pressure steam work and also transformed into gaskets for boiler tubes, handholes and manholes of boilers, and for pipe flanges. An inexpensive form of asbestos packing is made in wick and rope form, which is described more fully as follows:

Asbestos Thread: Asbestos yarn is transformed into asbestos thread. The yarn for the production of thread is especially hard twisted, and is put through processes that reduce it to fairly uniform diameter and smoothness. Asbestos thread is processed to insure smoothness and even finish. Thread is furnished in various sizes as follows:

2-ply, 12-cut	600 yards to the pound
2-ply, 14-cut	700 " " "
2-ply, 26-cut	1300 " " "
3-ply, 12-cut	400 " " "
4-ply, 12-cut	300 " " "

It is furnished to the trade on one-pound or five-pound paper tubes put up on universal winders.

Asbestos thread is used in the production of asbestos gas mantles and for sewing asbestos theatre curtains and asbestos garments.

Asbestos Cloth: Asbestos cloth is made in several weights and textures. The term "plain asbestos cloth" designates cloth made of plain asbestos yarn. "Metallic cloth" means that the cloth has been woven of asbestos metallic yarn.

Different manufacturers use different designations for asbestos cloth, there being no uniform standard nomenclature. The product of Keasbey & Mattison Company is designated as follows:

Designation	Weight per Sq. Yd.	Grade
No. 10 Plain Asbestos Cloth	3 lbs.	A
No. 9 " " "	2.5 "	A
No. 8 " " "	2.25 "	A
No. 8A " " "	1.90 "	A
No. 8AA " " "	1.65 "	A
⅛ in. " " "	5.00 "	A
Special Extra Heavy Grade Cloth Monel Wire Reinforcement	4.9 "	AAA
(The foregoing cloths are made in the basket weave.)		
No. 13C Metallic Asbestos Cloth	3 lbs.	A & AAA
No. 66 " " "	2.75 "	A
⅛ in. " " "	2.10 "	A
Asbestos Twill Weave Diaphragm Cloth		AAAA

All cloth is made in standard width of 40", but other widths are woven to order.

Asbestos Garments: Asbestos cloth is used in the manufacture of asbestos garments, of which there is a considerable variety—coats, pants, union suits, helmets, hoods, gloves, leggings, and shoes. Complete suits of asbestos are used by firemen for entering buildings on errands of rescue, and in the oil fields to approach burning oil issuing from wells for the purpose of extinguishing the flame. Asbestos mittens are used largely in handling hot metals. Asbestos gloves are used by electric welders and in other trades. Asbestos mitts and gloves are made very loose, and in appearance are very clumsy as compared with ordinary mittens, the purpose being to permit them to be thrown from the hands by a flip of the wrist when the mitt has become too hot, and the roomy construction enables the user to thrust his hands into a new pair with ease. A lining of wool fleece is used to insulate against heat, the asbestos cloth being heat resisting but not a good heat insulator in cloth form.

Asbestos Curtains: One of the most important uses to which asbestos cloth is put is in the construction of asbestos theatre or fire retardant curtains. The primary purpose of an asbestos theatre curtain is to prevent the loss of life. The second purpose is to prevent the spread of fire. The greatest hazard from fire in a theatre is panic. Panic results in crushing and trampling at exits, suffocation from smoke and gases. Loss of life by direct flame is infrequent. Since panic is the principal cause of loss of life in theatre fires, a study of the problem shows that there are several requirements that must be demanded of theatre curtains, inasmuch as theatre fires nearly always occur on or above the stage. Panic is apt to be caused:

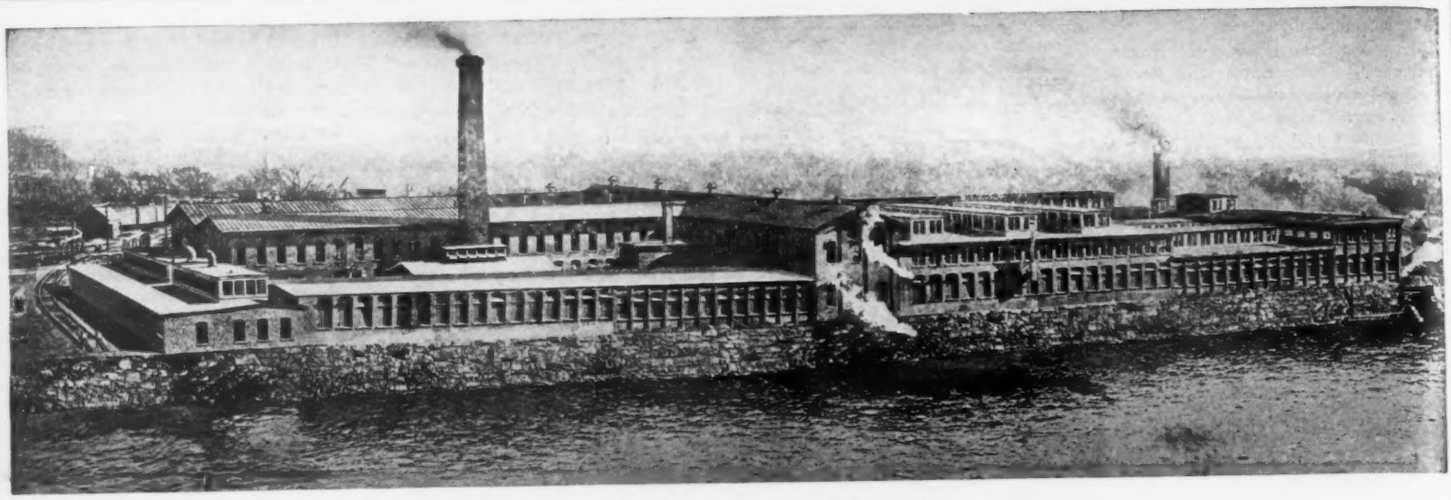
1. If the fire is visible to the audience.
2. If the curtain blocks when being lowered and does not come all the way to the stage floor.
3. If, after the asbestos curtain has been lowered, smoke comes around the sides and under the curtain.
4. If the curtain becomes hot quickly and glows.
5. If the curtain bulges out toward the audience due to expanding hot air caused by the fire.

An asbestos fire-retardant curtain may be called upon only once to perform its function in a theatre, but if it works properly on that one occasion it will repay many times over the original investment for the highest type of asbestos curtain that can be obtained.

There are now in use hundreds of asbestos curtains that will not prevent panic. Lack of knowledge in drafting city ordinances and state laws, and the total absence of such regulations in many cities and states, permit, in the majority of cases, the use of an asbestos curtain that, while legal, is apt to be ineffective. By presenting to state and city governments the reasons for using a curtain that can be depended upon to prevent panic, it is probable that many an auditorium can be made safer from the fire hazard than if an ordinary asbestos curtain is permitted to be used. The city of Philadelphia has taken the lead in adopting regulations that should serve as a model for all communities. A copy is attached and hereby offered as a tentative standard specification for adoption by this Society in the belief that much good will come from the weight of approval accruing from such endorsement.

In order to allay the fear of an audience after a fire has started, it is important that the fire-retardant curtain be lowered promptly and without hindrance of any kind. A single ply curtain as customarily hung may bind at the sides when being lowered if the fire has gained enough headway to cause considerable hot air pressure upon the curtain. The Bureau of Standards recommends that the mounting and construction of the curtain shall be such as to insure ready and positive descent when subjected to a pressure of five pounds per square foot, and that the curtain shall have sufficient strength when lowered to resist a pressure of ten pounds per square foot.

A study of this last statement will



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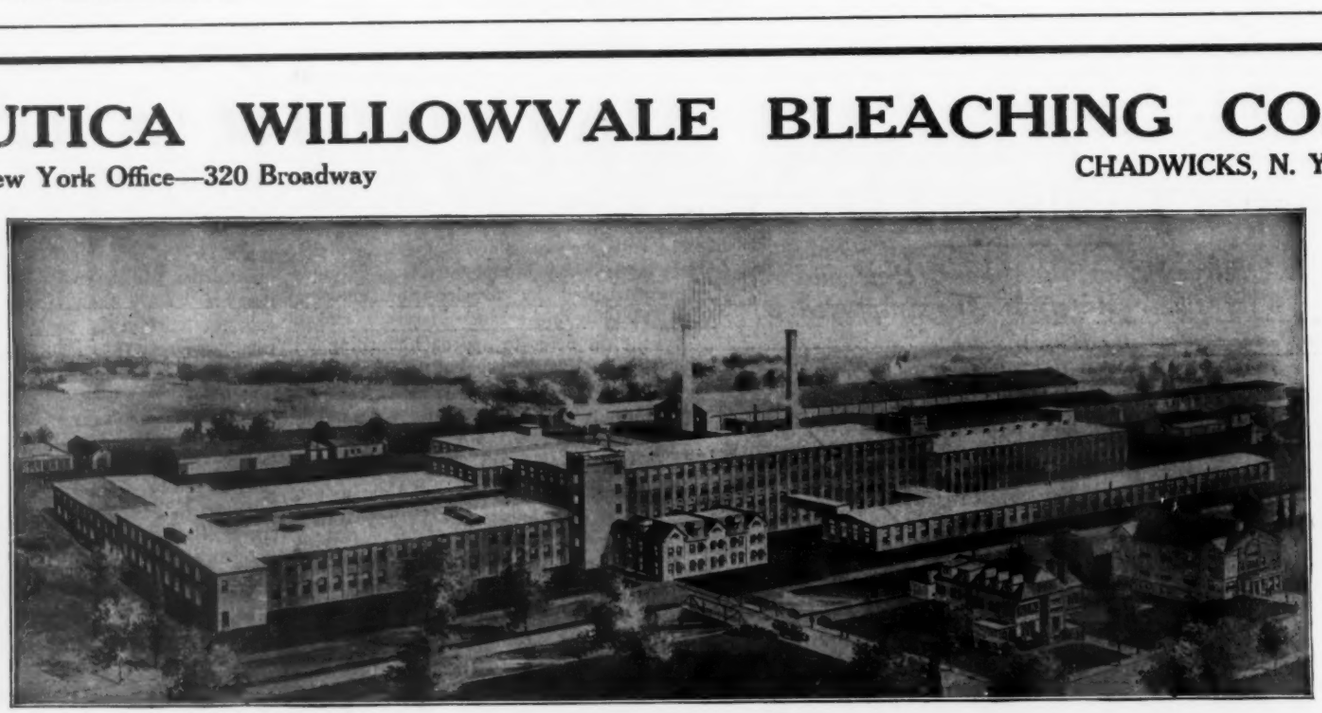


BLEACH—DYE—MERCERIZE

Table Damask — Sateens — Broadcloth
Nainsook—Pajama Checks—Longcloth
Cambric—Muslin—Sheetings

show the necessity of having curtains constructed of asbestos cloth of close weave and reinforced with wire. A light weight cloth, and especially one that contains no wire, will not stand up under the minimum pressure specified, when subjected to a fire test.

Panic is pretty apt to be caused if the curtain glow. The audience will see that a fire is raging back of the curtain and will fear that it may break through at any time. It is therefore especially important that the asbestos cloth be a heavy asbestos cloth of very close weave. It is furthermore evident that a double asbestos cloth curtain hung upon a rigid steel frame work provides additional safety in this respect. The face of cloth nearest to the fire provides insulation for the outside face of cloth next to the audience, the faces being five or six inches apart, and glowing upon the audience side will be impossible. The double curtain avoids the cutting of peep holes—danger spots for stimulating panic after the curtain is down.

If, after the curtain has been lowered, it bulge toward the audience, panic is apt to follow, as the audience naturally believes there is a fierce fire raging back of the curtain, threatening to break out toward the audience side. Here again a double curtain, stretched upon a steel framework, justifies the additional investment for that type of curtain.

When fire upon a theatre stage ignites the scenic curtains and the asbestos curtain is dropped, the part of the asbestos curtain that will receive the greatest heat and be subject to the greatest play of flame will be the top part—all the way across the top. This is because most of the scenic curtains are situated normally high above the stage and near the top of the asbestos curtain when it is down. The scenic curtains constitute a great deal of combustible material in a position that will allow flames and intense heat to play upon and across the asbestos curtain near its top. The intense heat will destroy the strength of the asbestos curtain, which may be so reduced that it cannot sustain the weight of the lower part of the curtain—if the curtain is made of plain asbestos cloth. It is true that most cities require that all scenery be fireproofed. However, experience frequently demonstrates the combustibility of much stage property.

It is evident that a curtain made of plain asbestos cloth, lacking the strength that is obtained by reinforcing the cloth with wire, produces an unsafe condition, and if the curtain should fall during a fire, panic is sure to be caused, with resulting loss of many lives in the audience.

Wire reinforcement in asbestos cloth positively will prevent such an occurrence, as has been amply demonstrated by the Bureau of Standards in tests made for that purpose on asbestos metallic cloth curtains, sustained in a specially constructed furnace at a temperature of approximately 1700°F. for a period of a quarter of an hour, with a wind pressure much greater than would be the pressure of expanding air in a theatre fire.

Asbestos cloth made for the construction of asbestos theatre curtains is produced in a number of styles and qualities. State laws and city ordinances are widely different in legal requirements going all the way from no requirement at all in many cities and states, to stipulations that do not permit the use of an asbestos curtain.

One of the leading manufacturers produces the following kinds of asbestos cloth that can be used in making theatre curtains:

Designation	Style	Wt. per Sq. Yd.		Grade
No. 8	Plain	2¼	lbs.	A
No. 66	Metallic	2¾	"	A
No. 13C	Metallic	3	"	A
No. 13C "Theatre Curtain"	Metallic	3	"	AAA
Special Extra Heavy Theatre Curtain	Monel Wire Reinf't	4.9	"	AAA

The last two are made of specially prepared yarn containing 95% asbestos. The first three styles are furnished in commercial grade and are the same as those designated by some firms as "C. P." meaning "Commercially Pure" (not chemically pure).

Electrolytic Diaphragms: Another important but less extensive use for asbestos cloth is in the form of diaphragms used in electrolytic cells for the production of oxygen, hydrogen, and chlorine. The diaphragm is submerged in the electrolyte and necessarily must be free from pinholes to prevent the admixture of the gases. For this purpose a cloth of pure asbestos is required, since one containing cotton would deteriorate by the action of the electrolyte upon the cotton content.

Asbestos Brake Lining: One of the most extensive uses into which asbestos yarn enters is in the weaving of asbestos brake lining, the production of which in the United States in 1926 exceeded 91,000,000 feet.

The first woven lining for automobile brakes was made of cotton. Cotton lining had high friction resistance and made a good brake—for a short time. The frictional heat burnt the lining; water hastened destruction of the cotton fibres. A different lining was needed—one that would resist heat and water, have considerable tensile strength and good frictional quality. The answer was a lining made of asbestos yarn, spun around fine wire, such as even at that time (about 1900) was being woven into asbestos metallic cloth for steam packings, theatre curtains, etc.

The idea of manufacturing asbestos metallic brake lining probably occurred to different inventors at about the same time. Two types of asbestos lining appeared as contestants for popular favor in the early years of brake lining history, one made from cloth and the other made from specially woven thick fabric, a heavy tape. The cloth was treated with a rubber compound, folded, stitched, compressed, and vulcanized. The tape was treated with a compound to waterproof it. Both types of lining attained and have held merited approval. Woven lining has become the type produced in greatest volume, for it has been possible to use asbestos metallic tape as the base upon which to build many constructive ideas of improvement, both in weave and in treatment.

Laboratory records show more than 300 kinds of asbestos lining have been produced during the last twenty-five years in solving problems presented by automotive engineers.

Asbestos brake lining is generally composed of four principal ingredients: asbestos, brass wire, cotton, and treating compound. Analyses of many brands have shown the best general construction is made up about as follows:

Asbestos	80%—in the plain yarn
Cotton	20%
Yarn	70%
Wire	20%
Treatment	10%

Selvage Edge Tape: Selvage Edge Tape is produced for the electrical manufacturing trade, and is made of specially selected asbestos fibre containing the very minimum of iron. The principal requirements of Asbestos Selvage Edge Tape are given in the specifications adopted by the Westinghouse Electric & Mfg. Company, a copy of which will be found attached hereto and offered as a tentative standard for discussion and consideration by this Society.

Asbestos Selvage Edge Tape is woven, like asbestos cloth, but is made in narrow widths from 3/8" to 4", with strong, even edges that will not ravel. It comes in varying thicknesses, from .015" to 1/8", and is furnished either plain or "metallic."

Due to the nature of asbestos and the exacting purposes which are served, the weaving of fine asbestos tape is a difficult process and few asbestos mills attempt its manufacture. Strict adherence to specifications is absolutely essential because of the small allowable clearances and the precision with which all parts for motors, generators and other electrical equipment are machined. The tape must be uniform in width and thickness, closely woven and free from pinholes. Following is a table giving the number of feet per pound by sizes:

Size	.015"	.020"	.025"	1/32" thick
½"	310	213	144	90
¾"	212	163	98	58
1"	163	122	79	49
1½"	148	101	72	43
1¼"	138	97	61	38
1½"	102	88	58	29
2"	85	65	37	23
3"	55	45	25	15

These weights are subject to a + or — variation of not more than 15%.

Asbestos Braided Sleeving or Tubing: Asbestos sleeving or tubing is made by braiding the finer yarns into tubings having an inside diameter ranging from 1/32" to 4". It comes in tight and loose weaves, and in light, medium and heavy weight. "Light" has walls approximately 1/32" thick, and "heavy" 1/16" to 1/8" according to diameter of tubing. It is used largely in the electrical industry and in glass factories.

Size I. D. in.	Apx. ft. per lb.	Size I. D. in.	Apx. ft. per lb.
1/16	250	¾	10
3/32	200	⅞	9.5
⅛	176	1	9
5/32	170	1¼	7
3/16	156	1½	5.38
7/32	143	1¾	5.1
¼	125	1¾	4.9
9/32	110	2	4.45
5/16	50	2¼	4.2
⅜	23	2½	3.87
7/16	22	2¾	3.6
½	16	3	3.29
⅝	14	3½	2.7
⅔	12.5	4	2.13

Asbestos Wick and Rope Packing: Asbestos Wick Packing is a loosely twisted, large diameter roving and is adapted to all conditions not requiring high steam pressures—for packing steam valves on exhaust lines, for hot water, vapor or low pressure steam heating systems; also for wire wiping retorts, ovens, etc.

Approx. ft.	per lb.
¼"	40
⅜"	30

Several strands of asbestos Wick Packing are twisted together to form Twisted Rope Packing. Following is given the approximate weight per 100 feet in the different diameters:

5/16"	5 lbs.
½"	10 "
5/8"	14 "
¾"	21 "
1"	28½ "
1¼"	47 "
1½"	67 "
2"	100 "

A Basis for Technical Activity

A Consideration of the Principles Underlying Textile Development

By H. S. Busby

Director, A. French Textile School, Georgia School of Technology

IN this critical period of sharp competition and uncertain markets through which the textile industry is floundering the gravest element of the situation is the failure of the scientifically trained expert to be seated in the place for which his experience, training, tendencies and the need of the hour require his services. Confusion, uncertainty and misdirection of large productive energy which are visible in all branches of the industry are due, not so much to improper management, as to the complete absence of the technically fitted judge in an accepted and recognized status that is at once advisory, judiciary and prophetic.

Looking back over the short period that has witnessed the rise to important consideration, in management, of exact technical knowledge of the details of our industry, it takes very little research to uncover that from the time the earlier technical discoveries of importance were

(*Continued on page* 183)

THE PERSONAL PAGE

C. Bruce Hagood has been elected president and treasurer of the Glenwood Cotton Mills, Easley, S. C., to succeed his father, W. M. Hagood, who died several months ago. **W. M. Hagood, Jr.,** has been elected honorary vice president; **B. A. Hagood,** active vice president, and **Wilton Hayes,** secretary. The following have been elected directors: **C. Bruce Hagood, W. M. Hagood, Ben S. Hagood, B. A. Hagood, Gertrude Hagood Mathews, Summerfield Baldwin, Sydney Bruce, W. C. Beacham, N. C. Poe, W. W. Robertson** and **Ed. Shanklin.**

Fred G. Kaeding has been elected president of the Phoenix Trimming Co., Chicago, Ill., succeeding August E. Neff, who died several weeks ago. Edward Neff has been elected vice president, and Mrs. Chapman, secretary and treasurer.

J. Howell Cummings, president of John B. Stetson Co., Philadelphia, was taken into the tribe of Blackfeet Indians by Fish Wolf Robe, son of the warrior Wolf Eagle, who was killed while fighting the Sioux, Mr. Cummings being given the name, Wolf Eagle. The ceremony took place before forty Blackfeet Indians in full regalia and war paint who are returning to Glacier National Park after having attended the Fair of the Iron Horse in Baltimore in which the Indians took part.

Lord Barnby, who is Francis Willey, head of Francis Willey & Co., Ltd., Bradford, England, owner of large textile interests in that country, Canada and the United States and who arrived in this country on the S. S. Berengaria on Oct. 8 for a visit to Boston and South Barre, Mass., where three of his mills are located, plans to sail for home on Nov. 2.

Fred Wildey, president of the Fabyan Woolen Co., Stafford Springs, Conn., and the Mystic (Conn.) Woolen Co., and Miss Mary A. Toomey, Worcester, Mass., were married in Boston on Oct. 17.

A. V. Morris, of A. V. Morris & Sons, Amsterdam, N. Y., has been elected a director of the newly organized New York Power & Light Corp.

Dr. Homer Gage, president of the Crompton & Knowles Loom Works, Worcester, Mass., was installed commander of Worcester Post, American Legion, on Oct. 24.

H. C. Finch, president of the Broadalbin (N. Y.) Knitting Co., and family, left last week for Miami, Fla., where they will spend the winter.

Geo. A. Mattern, of Gantner & Mattern Co., San Francisco, Cal., has sailed from New York for a trip to Europe, where he will join his wife and daughter. While this is primarily a pleasure trip he expects to look over European knitting machinery while there.

Ronald Alexander Mitchell, secretary of the Cyril Johnson Woolen Co., Stafford Springs, Conn., of which his father, Alexander I. Mitchell is president and treasurer, and Miss Ruth Bates, Springfield, Mass., were married at the home of the bride on Oct. 19.

Edwin A. Bartlett, son of Edwin N. Bartlett, president and treasurer of the Edwin Bartlett Co., North Oxford, Mass., has returned to Italy to study voice after passing the summer with his family. He was accompanied by his mother who will remain away a month.

Howard E. Whitehead, agent of the Pepperell Mfg. Co., Biddeford, Maine, will sail Nov. 12 on a month's tour of Europe. He will visit many of the large cotton mills.

George Crompton, a director of the Crompton & Knowles Loom Works, Worcester, Mass.. has been elected a vice president of the People's Savings Bank of that city to fill the vacancy caused by the death of Harry W. Goddard, president of the Charlton Woolen Co., Charlton City, Mass., on Sept. 8.

Z. L. Varick, for many years with the Sussex Print Works as New York sales manager, has resigned and will join the New York sales organization of the Arnold Print Works on Nov. 1. He will have charge of the silk and silk and cotton mixture department.

A. E. Waite, who has been connected with the Hockanum Mills Co., Rockville, Conn., for over 40 years, the last 15 as head of the cost department, has been promoted to the position of production superintendent, a recently created office. **E. M. Ide** has been appointed to succeed Mr. Waite in the cost department, and **George Coleman** has been made his assistant.

W. J. Erwin, has become division manager of the Ella Division of the Consolidated Textile Corp., Shelby, N. C., succeeding **J. R. Wikle** who has moved to Magnolia, Ark., to take the superintendency of a mill at that place.

Clarence E. Benson, who for more than 12 years was superintendent of the Booth Mfg. Co., New Bedford, Mass., has resigned his position. No successor has been announced, and it is believed that Joseph W. Bailey, the agent, will assume the duties along with his own. Mr. Benson resigned owing to ill health, and has no immediate plans for the future.

E. W. S. Jasper, distributor of knitting machine needles, New York City, has recently returned from abroad, spending two months in Germany, France and England. Mr. Jasper visited the needle plants in Chemnitz and Ebingen, and reports activity in textile lines in all countries visited, especially among knitting mills.

Frank E. Smith has accepted the position as superintendent and designer for the Indian Spring Mills, American Woolen Co., Madison, Maine. Mr. Smith was formerly with the Foxcroft Mills, Dover-Foxcroft, Maine.

A. L. Doolittle has been appointed superintendent of the Utica (N. Y.) Looms, Inc., to succeed **C. E. Brierly** who has resigned to accept a position at Weehawken, N. J.

John Southern has been appointed superintendent of the Auburn Mills of the Canadian Woolens, Ltd., Peterborough, Ont., Canada.

Frank Mellor, superintendent of the Barrymore Cloth Co., Ltd., Toronto, Ont., Canada, has returned to his duties after recovering from illness.

Ben F. Triebel has tendered his resignation as consulting engineer at the Harmony Mills, Cohoes, N. Y. Prior to leaving he was guest of honor at a dinner given by officials in appreciation of his 61 years of service with that company.

Robert Sanford, a recent graduate of Clemson (S. C.) College and analytical engineer of Callaway Mills, La Grange, Ga., and Miss Mary Murphee of Prattville, Ala., were married Oct. 11.

Herman E. Wilde has accepted the position as chemist for the Hockanum Co., Rockville, Conn., succeeding **Harry Clapham.**

Harry Winch has resigned his position with the Fabyan Woolen Co., Medway, Mass., to join the sales force of the Safepack Mills, Millis, Mass.

Blackstone Valley Mills Association will hold its annual ladies' night celebration in the East Douglas, Mass., Community House on Nov. 8. The committee of arrangements headed by First Vice President Andrew C. Gibson, Fisherville, Mass., has arranged for a chicken dinner and entertainment to be concluded with dancing.

Paul L. Thomas has accepted the position as designer for the Burlington Mills, American Woolen Co., Winooski, Vt. Mr. Thomas comes from Moosup, Conn.

Edward Brown, designer for the Hockanum Mills Co., Rockville, Conn., has been transferred to a similar position in the plant of the New England Co., at Rockville.

D. J. Spaulding, formerly at the Yantic (Conn.) Mills of the American Woolen Co., has taken a position as designer for the American Mills Co., Rockville, Conn.

Herbert Hewitt, designer for the American Mills Co., Rockville, Conn., has been transferred to a similar position in the plant of the Springville Mfg. Co., also at Rockville.

Lyman Butler, son of Marshall Butler, former manager of the Columbia Mills, Inc., Minetto, N. Y., has assumed charge of the hand painting department of the Minetto plant. He formerly held a similar position in Jersey City, N. J.

W. F. Smith, general overseer of spinning at the Loray Division of the Manville Jenckes Co., Gastonia, N. C., has resigned and accepted a position as overseer of carding and spinning in the Mexia (Tex.) Textile Mill.

Granville Quick has resigned as overseer of spinning in the plant of the Fonda (N. Y.) Silk Fabric Co. and accepted a position with the Kingsboro Silk Mills, Gloversville, N. Y.

L. G. Moss has resigned as overseer of night carding No. 1 at the Aragon-Baldwin Cotton Mills, Chester, S. C.

James J. Faron has accepted the position as overseer of carding for W. J. Dickey & Sons, Oella, Md. Mr. Faron comes from Worcester, Mass.

J W. Brown has resigned as overseer of weaving at the Henrietta Mills, Caroleen, N. C.

Albert J. Bressette has taken a position as overseer of weaving with the Shetucket Worsted Mills, Inc., Baltic, Conn.

P. L. McCauls has been made night overseer of No. 1 carding at the Aragon-Baldwin Cotton Mills, Chester, S. C.

R. I. James has resigned as overseer of carding in the Geneva (Ala.) Cotton Mills, and accepted a position as night overseer of carding and spinning in the Dale Cotton Mills, Ozark, Ala.

J. R. Patrick has taken a position as overseer of weaving in the Henrietta Mills, Caroleen, N. C.

Thomas Thompson has accepted the position as overseer of finishing for the Sebasticook Mill, American Woolen Co., Pittsfield, Maine, succeeding Harris **Midwood.**

William Mason, overseer of finishing for the Ware (Mass.) Woolen Co., where he has been for the last ten years, has resigned and will retire.

Vincent Degnan has succeeded **Freeman Sands,** resigned, as overseer of dyeing for the Moodus (Conn.) Woolen Mills, Inc.

E. C. Little, formerly employed in the Ninety-Six (S. C.) Cotton Mill, is now overseer of carding in the Clinton (S. C.) Cotton Mills.

Robert Cone has been promoted from second hand in day spinning to overseer of night spinning in the plant of the Morice Twine Mills Corp., Roanoke, Va.

James Craft, formerly of Mooresville, N. C., now holds the position of second hand in the cloth room of the Lincoln Mills of Alabama, at Huntsville, Ala.

Michael Wotkowiez, who was second hand in the card room of the Renfrew Mfg. Co., Adams, Mass., for a number of years, has taken a similar position with the Utica Steam & Mohawk Valley Cotton Mills, Utica, N. Y.

W. H. Thompson, section hand in carding in Mill No. 2 of the Thomaston (Ga.) Cotton Mills, has resigned.

Geo. Betsch has severed his connection as overseer of dyeing with the Golden State Silk Mills, Hermosa Beach, Cal., and is now residing in Fort Lee, N. J.

Harry Hoyle is now superintendent of the worsted yarn department of the Malden (Mass.) Spinning & Dyeing Co. Mr. Hoyle was formerly with the Lippett Woolen Co., Woonsocket, R. I.

Adolf Felgentrager, formerly overseer of finishing in the Botany Worsted Mills, Passaic, N. J., now holds a similar position in the Guerin Mills, Woonsocket, R. I.

Harris Midwood has resigned as overseer of finishing in the Sebasticook Mill of the American Woolen Co., Pittsfield, Maine.

Porter Gould has taken a position as overseer of carding in the Baltic Mills of the American Woolen Co., Enfield, N. H. He was formerly employed in the Tilton (N. H.) Mills of that company.

J. V. Jackson has been promoted from second hand to overseer of carding in the Utica Steam & Mohawk Valley Cotton Mills, Utica, N. Y.

Peter Bronson has taken a position as assistant overseer of weaving with the Cabot Mfg. Co., Brunswick, Me.

John Ryan, who resigned his position as foreman of the garage of the Hamilton Woolen Co., Southbridge, Mass., six months ago, has returned to his former employment.

Reports of Secretary and Standing Committees of National Association of Cotton Manufacturers

Record Important Progress and Substantial Membership Increase

THE annual reports of Secretary Russell T. Fisher, Treasurer W. Irving Bullard and the various standing committees of the association, as rendered at the business session Thursday afternoon, formed a record of encouraging progress. Membership has increased slightly, the treasury is in a strong condition, the organization's various publications and its publicity department have proved of enhanced service to members and the industry, and several of the standing committees report accomplishments that belie their static general title of "standing."

The standing committees that rendered reports were as follows: Merchandise, John S. Lawrence, Chairman; Statistical, Parkman D. Howe, Chairman; Technical, E. D. Walen, Chairman; Membership, W. Irving Bullard, General Chairman; Publicity, Robert Amory, Acting-chairman; Industrial Relations, Irving Southworth, Chairman; Tariff and Taxation, Ward Thorn, Chairman; Rates and Transportation, D. L. Taylor, Chairman.

The report of the committee on tariff and taxation not only presented an interesting analysis of cotton cloth importations for the last three years, but appended to it the report of the tax survey that was made available to members confidentially last summer, an abstract of which was published in TEXTILE WORLD at that time.

Report of Secretary R. T. Fisher

THE work of the Association in the past few years has become so diversified in many respects that it is impossible to do more than present, in a report of this kind, brief summary of the more important functions. The work in the past year has been divided into departments as in previous years and each department has been operated to secure the maximum service to the members.

The various standing committees and special committees appointed during the year have all accepted the responsibilities placed on them and have, at all times, functioned promptly and efficiently when called on to handle questions within the scope of their committees.

The Membership, Rates and Transportation and Tariff and Taxation Committees have continued to be very active.

The Membership Committee, as their report shows, has brought the membership of the Association up to its highest point.

The Rates and Transportation Committee has continued to watch developments, not only in New England but throughout the country and has promptly advised our members whenever proposed rate changes effecting the industry were being considered.

The Tariff and Taxation Committee is now working with the special committee appointed by the Governor of Massachusetts on the tax question as it applies to Massachusetts cotton mills.

The treasury of the Association continues to be sound as the report of the Treasurer indicates.

The Traveling Style Show

Perhaps the outstanding new work of the year was the Traveling Style Show sponsored by the Merchandise Committee and a small group of the member mills. The Traveling Style Show was presented in eight different cities in cooperation with the leading department stores in each of the cities. The fact that seven of the stores requested the show again next year before it had left their store is perhaps the best measure of whether or not the exhibit accomplished its purpose. Without exception all of the stores felt immediate sales response in their wash goods departments. It may be a question whether our Association should sponsor an undertaking of this sort that is definitely in the merchandising field but until some other organization takes this work over it is recommended that the Traveling Style Show be an annual event.

An Aid to Cooperative Effort

The Semi-Annual Meeting of the Association was held at Atlantic City, N. J., on May 13. This was a joint meeting with the American Cotton Manufacturers' Association under the auspices of the National Council of American Cotton Manufacturers. A beginning was made at that meeting to draw the several factors in the distribution of cotton textiles together on a program looking to the ultimate cooperation of all factors and the elimination of undesirable trade practices. The meeting also brought together the manufacturers from the North and South and aided materially in establishing more friendly relations and a better understanding of their mutual problems.

Technical Department

The work of the Technical Department has not been spectacular but we believe it has been of considerable service and value to our members. The nature of the requests coming to it have gradually changed so that now a number of our members look to it for information on practically any technical question pertaining to the industry.

This Department has continued to cooperate with the other existing organizations working along similar lines to prevent unnecessary duplication of effort. Working through the National Council of American Cotton Manufacturers Committee on Standization and Specifications it has collected data that have helped in the formulation of a number of the Federal Specification Board specifications.

Technical material has been collected and published in the monthly Bulletin and the Technical Section of the Year Book entirely revised, substituting technical material in place of the miscellaneous engineering data that were carried in former editions.

Statistical Department

The Year Book continues to be the principal work of the Statistical Department. From the reviews of the book in the trade press it is evident that the Year Book not only presents the facts in an acceptable manner but fills a real need on the part of the industry.

Statistical material has been presented in each of the monthly Bulletins and many questions of a statistical nature answered for our members.

One special report was published during the year on "An Analysis of Taxes Paid by Massachusetts Cotton Mills." Massachusetts was selected as more data on taxes are collected by the State Government than any other New England State. It was felt that conditions in the other States were not sufficiently unlike Massachusetts to warrant trying to include all of the States in one survey. A copy of this report is presented as an appendix to the Tariff and Taxation Committee Report.

Publicity

The Publicity Department has been very active during the past year and for the first time has had a full-time publicity man in charge. In addition to securing publicity favorable to the cotton industry as a whole the services of the Department have been used by the individual members to present to the public information concerning their organizations. This service to the individual members is rendered at cost.

Effective publicity was given to the Travelling Style Show and stories and pictures were carried in the papers throughout the United States.

The Department was particularly effective in presenting the facts in regard to the tax situation, not only on the Federal and State situations but also on the local conditions.

Library

A number of volumes have been added to the library this year both through purchase and through gift.

The attention of the members is called to the library as it is undoubtedly one of the most complete cotton textile reference libraries in the country.

Our library needs a great many books on the early developments of the industry and as these books are not available for purchase through the ordinary channels we would appreciate any contributions that our members may care to make.

Awards

In accordance with the bequest of Moses Pierce, and under the conditions established by the Board of Government, medals were awarded for scholarship last June as follows: William Bruce, New Bedford Textile School, New Bedford, Mass.; Nelson Theodore Wright, Philadelphia Textile School, Philadelphia, Pa.; James Lee Young, Jr., Georgia School of Technology, Atlanta, Ga.; Richard Morey Sawyer, Lowell Textile School, Lowell, Mass.; Dennis Lee Pickelsimer, Clemson Agricultural College, Clemson College, S. C.; Franz Erion Plummer, North Carolina State College of Agriculture and Engineering, Raleigh, N. C.

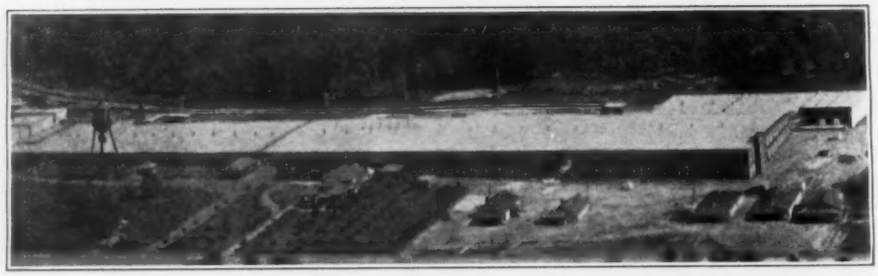
The Firth Scholarship at the New Bedford Textile School was awarded to Theodore E. Carlson of New Bedford for the years 1927–28.

Such service as the Association has given to its members has been due to the active assistance and wholehearted cooperation of the staff and the Secretary wishes to take this opportunity to acknowledge their cooperation and thank them for their loyal support.

Respectfully submitted,
RUSSELL T. FISHER.

Report of Membership Committee

THE Membership Committee during the past year has added 50 members to the Association, bringing the total membership to 1035. This represents not only a sufficient number of new members to replace those lost through death and resignation but



Back of Boger & Crawford Mercerized Yarn Service

It is interesting to note that our spinning mill at Lincolnton, N. C., is more than 1,000 ft. long. If it was stood on end, the Eiffel Tower in Paris, the world's highest structure, would not equal it in height.

What has this to do with mercerized yarns? Perhaps not much — but it does give an indication of the scope of our resources. It helps explain why we are seldom stumped to fill an order despite the size. In this spinning mill, combed peeler cotton is spun into yarns of consistent uniformity. Constant vigilance is exercised in every operation.

Let us fill your next mercerized yarn order.

BOGER & CRAWFORD

"From the Cotton Field Direct to You"

J. and E. Venango Sts.
PHILADELPHIA, PA.

also a net increase in the total over last year.

We have among our members many of the leaders of the industry and many of the leading mills. There are, however, many men and mills that are not members that should become members. The general activities of the Association are such that whether or not a mill is a member it is deriving the benefit from the work of the Association, consequently, it is only right to expect their support of our organization.

The members of this Committee cannot of course get in touch with all of the possible prospects, consequently, you are urged to send the names of men that you think would be desirable members to the Secretary.

Respectfully submitted,

W. Irving Bullard,
General Chairman.

Technical Committee Report

THE Technical Committee has continued to work with the Technical Department of the Association and has offered many suggestions for its activities and development.

The principal activity of the Department continues to be service to individual members on technical subjects. Data have been collected during the past year and published in the Bulletins. The Technical Section of the Year Book was completely revised and new material added.

The work of the Department continues to increase in value, as each year information and test results are added to the files and serve as ready reference for answering many of the questions from the members.

Respectfully submitted,
E. D. Walen,
Chairman,
H. L. Bailey,
C. E. Mead,
Frank I. Neild,
Albert R. Pierce,
J. Foster Smith,
N. T. Thomas.

Report Of Statistical Committee

THE Statistical Committee has met from time to time and considered the various subjects which have been presented. A very careful study of the taxes paid by the cotton mills has been prepared and submitted to the sustaining members of the Association. The Statistical Section of the Year Book has been carefully gone over and numerous additions have been made.

The Committee feels that it could be of real service to the Association if the statistical problems of the members were submitted to the Committee. The Committee holds itself in readiness at all times to lend its assistance to any member who desires any statistical work.

Respectfully submitted,
Parkman D. Howe,
Chairman,
F S. Blanchard,
Arnold W. Hunnewell,
W. S. Pepperell,
C. B. Nichols,

Parkman D. Howe, Chairman Statistical Committee

Albert Greene Duncan,
Alston H. Garside.

Report Of Publicity Committee

THE publicity work on the part of the Association was undertaken somewhat in the nature of an experiment as it was not known just how much use could be made of such a service and how effective it could be made on the limited amount of money available.

Working under the direction of this committee, the Publicity Director has been able to be of assistance to the industry as a whole, both in the distribution of general news of benefit to the industry and in calling attention of the public to conditions unfavorable to manufacturing.

Favorable publicity was obtained for the Travelling Style Show and clippings would indicate that stories on cottons were carried by the papers throughout the country. The position of the Association in regard to taxes, McNary-Haugen Bill, Sherman Anti-Trust Laws, etc., was carefully given to the public through the Press.

In offering the services of the Publicity Department to the members of the Association the Committee has recommended that the same general arrangements that had been used with success by the Statistical and Technical Departments be followed.

The Committee feels that the experiment has been worth-while and earnestly recommends that the beginnings that have been made be continued as the results obtained thus far warrant the expense to the Association.

Respectfully submitted,
Robert Amory,
Acting-Chairman,
John S. Lawrence,
W. S. Pepperell.

Merchandise Committee Report

THE Merchandise Committee has continued its work in advising the Association in its activities in the merchandising field.

The outstanding accomplishment in the past year was the Traveling Style Show. This exhibit was a further development of the Annual Meeting Style Show and was displayed in eight department stores in eight of the large distributing centers. A special showing was also made at the annual meeting of the National Wholesale Dry Goods Association.

John S. Lawrence, Chairman Merchandise Committee, N. A. C. M., Reelected Member Board of Directors

The Style Show obtained thousands of inches of space for cotton goods in the newspapers and style publications throughout the country.

Another Style Show will be held at the Annual Meeting this year and it is planned to send it out on the road after the first of the year. The possibilities of this work are not apparently appreciated by many of our members but it is hoped that now that a few mills have demonstrated that the plan is feasible and brings results, more mills will take part in future showings.

Merchadising continues to be one of the important factors in the cotton industry and your Committee earnestly requests the cooperation of our members in carrying out its suggestions.

Respectfully submitted,
John S. Lawrence, *Chairman*
Nathaniel F. Ayer,
Lee Rodman,
John A. Sweetser,
Robert G. Vickery,
Harold C. Whitman,
William E. Winchester.

Report on Industrial Relations

THE contact between employe and management is at all times a serious problem and one that cannot be answered by generalities. Each industrial plant presents conditions peculiar to that plant and, while plans of industrial cooperation that are successful in one plant may not be applicable to all, there is much to be gained by an interchange of ideas.

Your Committee has followed the new developments in industrial relations during the past year and has stood ready to offer aid or advice to any of the members interested in this subject.

Respectfully submitted,
Irving Southworth,
Chairman,
Charles D. McDuffie,
Albert R. Pierce,
John Sullivan,
Richard G. Riley,
Robert E. Steere,
G. Bion Allen.

Rates And Transportation Report

THE needs of the cotton textile industry for full-hearted cooperation of the eastern railroads in the matter of freight rates have never before been more obvious than at present; and on the other hand the revenues which the eastern railroads receive from the cotton textile industry in the future will be measured by the interest they take in the welfare of the cotton mills.

In the item of distribution costs of cotton manufactured products the freight rate is often the deciding factor which determines a profit or a loss—a sale or a failure to sell. The carriers should therefore take notice of the fact that as cotton manufacturing units find it impossible to continue activity in the East or North at a profit, inactivity will reflect a substantial loss in revenue not only from the cotton mill raw materials, fuels, supplies and products but also from foodstuffs consumed and clothing worn by the mill workers and the furniture and building materials which provide for their comfort and shelter.

Protest Decorated Cloth Rating

New products necessitated by changing conditions spring up from time to time. These new products, decorated by weave, color or substitute material to make the cotton fabric

The J. R. Montgomery Co.

Windsor Locks, Conn.

Cotton Yarns
Mercerized Yarns

in

Natural — Colors
Fancy double and twists made into chain or ball warps, wound onto Beams, Jackspools, Tubes, Cones, Skeins

Cotton Warps

Natural — Colors
Mercerized
Plain Patterns
Wound onto
Beams, Jackspools, Tubes, Cones, Skeins

Novelty Yarns

of

Cotton, Worsted, Wool, Mohair, Rayon, Silk combined into
Knot, Loop, Spiral, Flake, Ratine Effects

Facilities of entire organization available for developing novel effects

Tinsel

Lame, Laminette, Cords, Cordonette
Threads, Brilliants, Perlerette
Brush and Mop Yarn

in

Gold, Silver, Antique, Steel, Copper

Tinsel Conductor Cord for Electrical Purposes

Dyeing and Bleaching
Mercerizing

Done in a modern dyehouse—job work solicited

CATLIN & CO., Inc.

Selling Agents for

COTTON GOODS

AMERICAN SPINNING CO.
APPLETON COMPANY
APPLETON MANUFACTURING COMPANY
FLORENCE MILLS
HILL MANUFACTURING COMPANY
APONAUG MANUFACTURING CO.
DORA MILLS
COTTON MILLS PRODUCTS CO., MOBILE MILL

COTTON YARNS

LAWTON SPINNING CO.

and other mills furnishing full range of all numbers

345-347 BROADWAY, NEW YORK
BOSTON PHILADELPHIA CHICAGO

J. H. LANE & CO.

Tire Fabrics — Cord Fabric
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more attractive, are nothing more than cotton factory products.

Your Committee on Rates and Transportation has admonished traffic officers of the railroads and railroad rate making committees of the eastern carriers that any higher ratings on decorated cotton fabrics than on plain cotton fabrics will ultimately be disastrous to the cotton manufacturing industry in the northeast. We believe we can report some success but by no means the measure which should be attained.

Dangers of Proposed New Rates

There are some very important happenings going on over the country concerning transportation rates on cotton mill materials, supplies and cotton products, of which some of our members may not be aware, but in which they will be vitally interested as later events will show when the adjustments as proposed become effective.

This proposed adjustment concerns revisions of the freight classification and cancellation of less-than-carload commodity rates. It primarily affects the southern territory, but not only within that territory but to and from it as well.

Our western members are concerned prominently in this proposal because of the very strong probability of an upward revision in the freight rates they pay on cotton products from the South. Our eastern members interested in finishing are concerned because of the probability of increased cost of gray cloth due to increased freight rates if the adjustments as proposed are carried out.

All cotton interests over the territory of our membership are concerned in the very strong possibility of a reflection of these higher freight costs in an increase in freight rates to all markets because of these upward proposals for the southern territory.

The basis for these classification and rate revisions appears to be the outgrowth of the order of the Interstate Commerce Commission in the Southern Class Rate Investigation known as Docket 13494. The order in this investigation, briefly stated, provides for rates within, to and from southern territory based on distance: the cancellation of less than carload commodity rates as interpreted by the carriers affected as the intent of the Commission's order. Other orders of the Commission provide for classification readjustments with a thought toward uniformity over the country.

Mileage Scales Based on Distance

There seems to be no question that a general and distressing disturbance in the future distribution of cotton textile products and manufacturing locations will follow these changes in the freight rate fabric of the country if these orders of the Commission in the Southern Class Rate Investigation, which seemed to be followed somewhat in the finding in the Southwestern Class Rate Investigation, are followed in the Eastern Class Rates Investigation and applied to Western Trunk Line territory.

Mileage scales based on distance as the primary determining factor may be theoretically proper, but it is very improbable that the country has yet so far progressed that it is able to accept the theory without disastrous results to present established business unless applied very gradually.

Respectfully submitted,

D. L. TAYLOR, *Chairman,*
H. D. ARNOLD,
F. R. FRITZ,
A. S. RICE,
H. M. TARR.

Report on Tariff and Taxation

THE volume of importations of countable cotton cloths continues to shrink. Measured in square yards the statistics for the last eight years are as follows:

	Square Yards
1919	47,846,024
1920	124,446,600
1921	112,340,259
1922	148,343,040
1923	206,146,780
1924	183,749,869
1925	110,464,954
1926	61,000,823

For the present year (1927), the importations for the first six months, though a trifle less, are at about the same level as in the previous year:

D. L. Taylor, Chairman Rates and Transportation Committee, N. A. C. M.

January to June, 1926, 36,780,893 sq. yds.; 1927, 35,347,445 sq. yds.

In the aggregate, these figures continue to indicate a fairly satisfactory operation of the tariff under present conditions.

More interesting still are the statistics relating to the countries from which these importations have been made; in each case they are based on data for the fiscal year. The United Kingdom continues to be our most important competitor in our home market, supplying 67% of the total of the imports as compared with 76% of the previous year, and 86% in 1924-25. The aggregate from all the other countries shows a very slight increase, for which Switzerland, France, Italy and Spain are almost wholly responsible. The case of Switzerland should be particularly noted where the importations have risen from 2,074,157 sq. yds. in 1924-25 to 7,850,998 sq. yds. in the last fiscal year. This country, after the United Kingdom, is now our most important competitor.

Fine Goods Imports Increase

There are other statistics relating to the kinds of cloths imported at the principal ports of the United States, which account for about 80% of the importations. The importations of poplins and broadcloths have decreased in the three fiscal years from 96,000,000 sq. yds. to 17,000,000 sq. yds. On the other hand the group of lawns, organdies, nainsooks, cambrics and similar fine goods of average yarn number, 40s and above, show increased importations from 11,449,785 sq. yds. to 16,529,737 sq. yds. There are also increases in the groups of "dotted swisses" and "jacquard woven cloths"; in one case of 50% and in the other of 100% as compared with the fiscal year 1924-1925.

IMPORTED

	June 30, 1924-25 Square Yards	1925-26 Square Yards	1926-27 Square Yards
1 Broadcloths Poplins	95,982,131	33,711,097	16,967,885
2 Sateens (7 harness or less)	13,858,280	4,390,824	4,630,918
3 Sateens (8 harness or more)	3,938,507	2,190,327	2,541,393
4 Lawns Organdies Nainsooks Cambrics and similar fine goods of average yarn number 40s and above.	11,449,785	13,762,446	16,529,737
5 Veils, plain and fancy	5,426,275	5,863,405	2,243,107
6 Crepes	5,607,316	1,702,528	1,021,878
7 Ginghams two or more colors averaging 20s to 59s yarn number	1,318,185	814,232	365,078
8 Ratines	377,651	153,623	121,016
9 Dotted Swisses	278,727	201,601	324,262
10 Jacquard Woven Cloths	641,518	903,705	1,346,042
	138,878,375	63,693,788	46,091,316

The statistics, since the close of the fiscal year, for the months of July and August display the same general characteristics, though distinctly greater than during the same two months a year ago.

IMPORTED

	July-Aug. Square Yards 1925	July-Aug. Square Yards 1926	July-Aug Square Yards 1927
1 Broadcloths Poplins	4,000,850	2,600,275	2,338,159
2 Sateens (7 harness or less)	310,792	440,913	815,328
3 Sateens (8 harness or more)	519,212	462,291	415,048
4 Lawns Organdie, etc	1,302,817	1,431,140	3,677,253
5 Voiles	628,222	130 939	139,357
6 Crepes	155,359	141,562	75,170
7 Ginghams	259,449	28,533	22,480
8 Ratines	1,968	12,598	6,071
9 Dotted Swisses	14,703	25,451	22,502
10 Jacquards, etc	91,012	202,286	304,832
	7,254,384	5,485 988	7,816,200

Analysis by Yarn Number

There is a third classification of statistics, an arrangement of these importations by average yarn number. The data are also for the fiscal years. An examination of this table shows the principal increases have been in the ranges 1s to 10s, 61s to 70s, 101s to 120s, and 131s to 140s. Manufacturers of fabrics in these ranges can draw their own conclusions:

Square Yards by average yarn number
Twelve months ending June 30th

	1925	1926	1927
1s to 10s	931,044	1,543,923	1,801,821
11s to 20s	4,395,190	3,677,971	3,502,915
21s to 30s	20,403,692	10,970,784	6,777,605
31s to 40s	41,770,045	9,097,252	4,471,415
41s to 50s	32,809,467	8,893,976	5,453,933
51s to 60s	21,148,489	7,660,940	6,068,373
61s to 70s	8,566,693	2,803,684	4,921,586
71s to 80s	7,664,947	10,663,135	9,808,645
81s to 90s	8,067,774	6,828,493	6,652,081
91s to 100s	11,705,828	10,576,678	7,869,837
101s to 110s	440,400	579,797	1,777,501
111s to 120s	237,358	117,655	246,649
121s to 130s	238,692	601,910	402,813
131s to 140s	21,011	75,568	295,104
141s to 150s	15,098	15,831	18,612
151s to 160s	11,204	4,012	2,436
161s to 170s	1,239	11,585	3,533
171s to 180s	5,200	959	3,929
181s to 190s	1,780	1,616	1,305
191s to 200s	404	.....	700
200s & above	4,647	.....	.....
	158,440,202	74,125,769	60,080,798

Your Committee has little to add in the form of general comment to the opinion expressed by them in their two previous annual reports.

So far as taxation is concerned a special report was issued during the year of such major importance that we have embodied it as an appendix

E. Kent Swift, Reelected to Board of Directors, N. A. C. M.

to this report, that it may be printed in the Transactions of the Association.*

Respectfully submitted,

WARD THORON, *Chairman,*
ROBERT AMORY,
A. E. COLBY,
RUSSELL H. LEONARD,
JOHN E. ROUSMANIERE,
J. R. MACCOLL.

W. B. Hall Succeeds E. E. Chadbourne at York Mfg. Co.

SACO, ME.—Walter B. Hall has been appointed agent of the York Mfg. Co. to fill the position left vacant by the resignation of Edward E. Chadbourne, effective Nov. 1. Mr. Chadbourne has been with the York company for 45 years and has served as agent since 1921 succeeding E. E. Page at that time. Mr. Hall was formerly agent of the Whitman Mills at New Bedford and previously had been agent of the Thorndyke Co., West Warren, Mass.

*Editor's Note.—An abstract of this tax report was published in TEXTILE WORLD of July 23, 1927.

ESTABLISHED 1876

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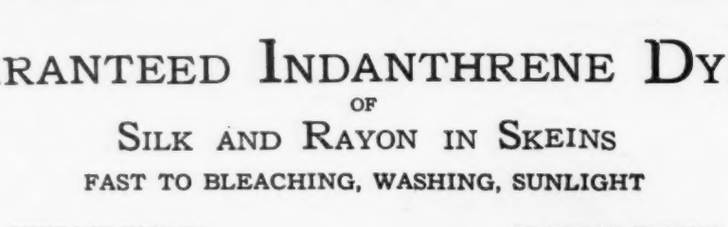

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The Weaver's Friend

It boils thin — it penetrates the warps — increases breaking strength and carries the weight into the cloth. Being thoroughly washed free of gluten and other foreign matter, it gives a bleach and finish to the goods that you can get from no other starch.

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Southern Agent: DANIEL H. WALLACE, Greenville, S. C.

C. B. ILER, Greenville, S. C. — L. J. CASTILE, Charlotte, N. C.

Effective Discussion Features N. A. C. M. Convention at Boston—Continued

(*Continued from page 76*)

Cotton-Textile Institute excepting to call to your attention the fact that it has just passed its first birthday. I think some of the members of the industry expect that the formation of the Institute and the work of its officers and staff will themselves serve to correct any evil that may exist in our industry. As an actual fact, it is pretty obvious that the Institute can only diagnose the troubles, point out clearly to each of us what they are, perhaps suggest a remedy; but it is up to us as individual manufacturers to take whatever medicine may be indicated. Therefore, it is specially important that you men who are operating and deciding upon the policies of our mills in the East should know exactly what the Institute is doing, what its staff has accomplished and what they are trying to accomplish; that you should know how to go to the Institute to find out anything that may be necessary in your particular business, that the final task of curing the troubles is up to each of you and everyone of you separately. I take pleasure in introducing George A. Sloan, who has been with the Institute from its inception, who bore the brunt of the work for several months before Mr. Hines was elected president or had time to get into office."

Work of Cotton-Textile Institute

By George A. Sloan

AT the outset let me assure you on behalf of Mr. Hines who was so extremely disappointed not to be with you today, that we of the Institute appreciate the interest and generosity of your committee in reserving so much of your program for a presentation of the work which we have undertaken and the objectives which we are trying to reach for the industry. It is only typical of the cordial aid which Mr. MacColl, your president, and Mr. Fisher, your secretary, have accorded the Institute since its inception.

Mr. Hines has asked me to say to you that he values most highly the cordial support which the Association has given and continues to give to the Institute and he feels that he and the other officers of the Institute are indeed fortunate to be able to turn to the officers of the National Association for advice drawn from your long and varied experience.

I shall always remember my first day with the Institute, indeed the first day of the Institute, when I closed the one room that made up its office which has grown to almost the whole floor, to come to Boston and dine that evening with the members of the Rag Club. Surely there could have been no more propitious introduction to new friends and new tasks than was made possible by that kind invitation.

By our discussions this afternoon I hope that my colleagues on the staff of the Institute and I may be able to give you a composite sketch of the Institute, its activities and plans for the industry, leaving you to judge its accomplishments and its prospects for the future. I shall endeavor to outline this picture in a general way, leaving the details to be presented by the other members of our staff, Mr. Morse, Mr. Halstead, and Mr. Duncan, who are directly in charge of special Institute activities.

Spirit of Cooperation

The Institute stands today as the embodiment of a new spirit of cooperation which characterizes the industry as a whole. I believe we have already made sufficient progress to see that one of the large and useful services which we can perform will be in providing more adequate and more accurate information as to the existing facts and as to the probable trend of supply and demand. Such a service should be beneficial in two directions, within and without the industry. Within our membership it ought to enable each individual mill executive to have a clearer understanding of his own position and of the fundamental factors which influence the industry. As for the industry's external relations, it seems to me that this added information, this new perspective, if you please, can make it possible for us to become better coordinated with other industries

John L. Burton, Reelected to Board of Directors, N. A. C. M.

which are related to or directly affiliated with the manufacture of cotton textiles. I refer primarily to the converters and finishers as well as wholesalers and retailers.

As the work of the Institute is extended and better established, the activities undertaken should contribute not only to our own improvement, but should be of ultimate benefit to the trade in general and the consumers of our many products.

Development of Groups

Because of the inherent complexity of the industry it was decided in the very beginning that the work of the Institute could be performed most effectively through group organizations. These are confined to specified branches according to the type of product of our member mills. Our oldest Group is the Wide Sheetings Group which was formed in March. Then we formed in the order named a Narrow Sheetings Group, a Carded Yarn Group, and a Print Cloth Group. In August the members manufacturing osnaburg completed the organization of an Osnaburg Group. Only last Thursday, we formed our sixth group among members manufacturing chambray. The chambray meeting brought together a large proportion of the manufacturers of cheviots, chambrays, and plaids—19 in all—and was a significant demonstration of the interest in these group organizations which was shown at our annual meeting.

George A. Sloan, Secretary, Cotton-Textile Institute, Who Spoke at Wednesday Afternoon Session, N. A. C. M.

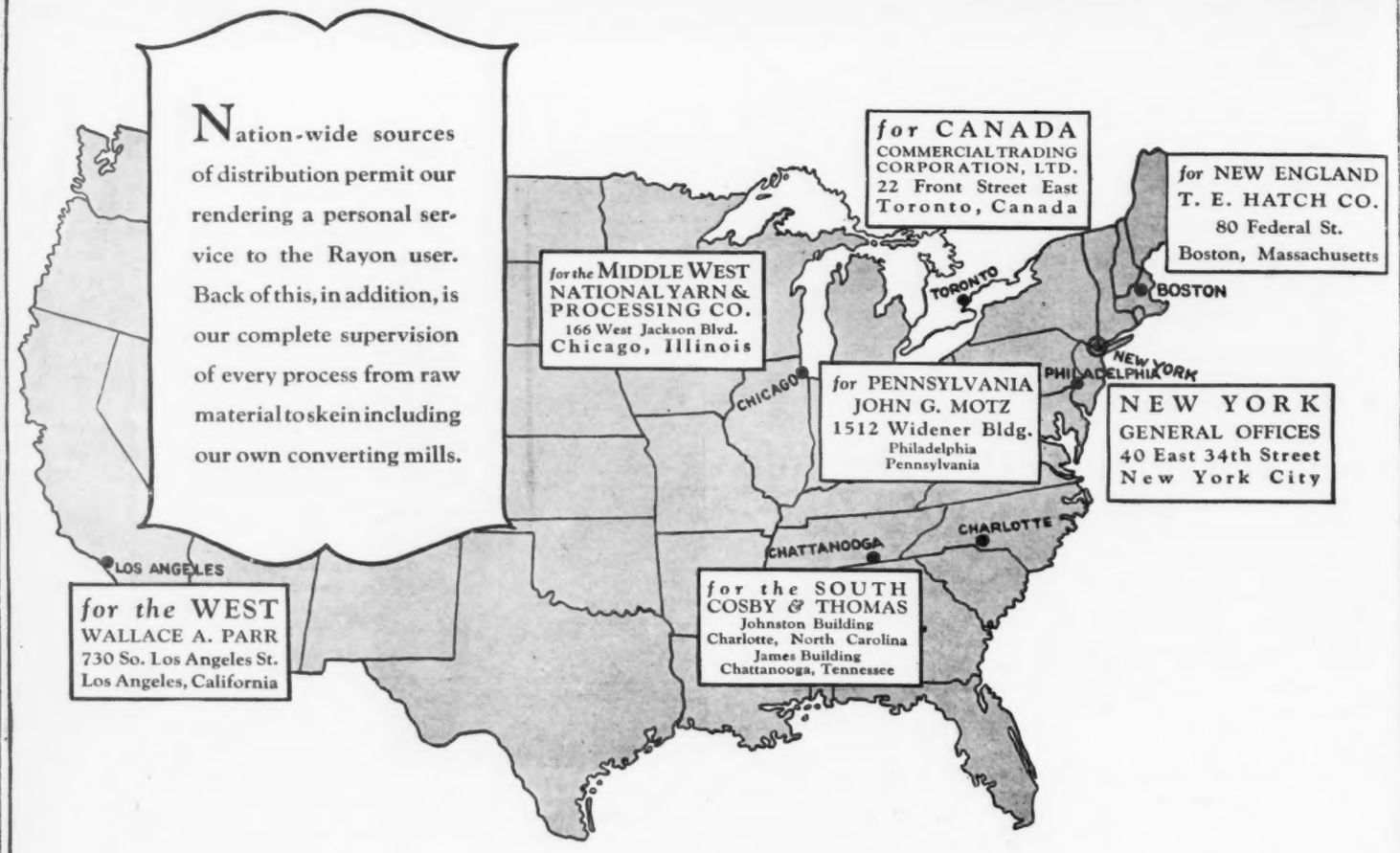
In organizing these groups, advisory committees, usually of five or seven members are selected. The Group chairman appoints contact captains for New Uses, Statistics, and Cost Accounting, through which in each instance the Institute's work is coordinated. In the case of the Carded Yarn Group it was found desirable to designate sub-committees in addition to the advisory committee to deal with different branches of production as well as distribution. This permits a certain flexibility which has been found very useful in making the group work more specific. The Print Cloth Group, which includes a wide representation of members and a great variety of fabrics, is now considering a proposal to form a subgroup for print cloth dobbies with and without rayon.

Other Groups will be formed as rapidly as is practicable when our members indicate a desire to avail themselves of the Institute's activities. Mr. Hines has made it clear that in forming these Groups there is no desire on the part of the Institute to duplicate work which is already being done successfully in other organizations. As an example, in the collection of statistics from our members, we are working along lines which the Association of Cotton-Textile Merchants of New York have built up so usefully during the last few years, supplementing their satistical data wherever possible and in a few instances substituting our more complete reports, as in the case of wide sheetings.

We are encouraging our fine goods members to join the Fine Cotton Goods Exchange and Mr. Hines announced at the annual meeting of members last week that one of our most important members located here in Massachusetts had indicated his purpose to join in response to his request. Since that announcement, I am pleased to report that three fine goods mills located in South Carolina, one large mill in Fall River and one in North Carolina have informed us that they too will join the Exchange. So it will be seen that we are actively cooperating with the Exchange feeling as we do that in such a way the Institute can best serve this important element of mills within our membership.

Participation in our Group activities either for statistics, costs, or new uses, is not limited to members but is offered to those outside the Institute who may be engaged in a branch now included in one of our Groups.

In the discussions of special problems relating to a given Group much can be done and I wish to make it clear that the opportunities for service on the part of the Institute in behalf of a group of manufacturers are not limited to the specific activities heretofore touched upon. This may be illustrated by what has already taken place in our Carded Yarn Group through the adoption of a Code of Trade Practices. Unsatisfactory business practices had developed in the merchandising of yarns and one of the first things which the Group did was to discuss this situation with representatives of the yarn merchants organization—The Cotton Yarn Merchants Association. The Code of Carded Yarn Trade Practices was the result. One of the outstanding results of the adoption of the Code was the practical elimination of practice of dealers buying and selling yarn on their own account, in addition to handling yarn as agents for the mill. The carded yarn dealers themselves recognized the unsoundness of such a practice and it is the general belief on the part of mills and selling agents alike that the adoption of the Code



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and adherence to its principles have been distinctly beneficial to the carded yarn industry and have had a stabilizing influence of value to the public.

Outside Contacts

As for our relationship to external agencies, the Institute is representing the cotton textile industry in a number of contacts with other important industries and Governmental agencies. We are cooperating with the Department of Agriculture and with the Department of Commerce in a broad survey or census of the uses of cotton products which Mr. Morse will describe to you. We have also formed contacts with a number of important trade associations and industrial and merchandising groups.

Our Cotton Committee, of which Mr. Amory is a member, represented the Institute in a conference with representatives of the American Cotton Growers' Exchange and has laid what we consider the foundation for a discussion of the many problems relating to distribution which the cotton textile industry has in common with the cotton growers as well as the shippers of our raw material.

The Institute also has brought together leading representatives of the important groups concerned with the manufacture and distribution of cotton textiles for an exchange of views on the broad subject of distribution. The first meeting of these various elements was characterized by the frank discussion and enlightening expressions of opinion on such important questions as hand-to-mouth buying with its effects on the cost of manufacture and distribution of cotton goods, as well as the relationships of wholesalers and retailers to those representing the manufacturing phases of cotton textiles. Special committees have been appointed which we trust will insure far-reaching study into these fundamental matters.

As part of my work during the past year, I had occasion to visit a large number of members in New England and in other parts of the country. In all, I have traveled over 15,000 miles in visiting mill centers. During the early summer I visited in Western Massachusetts, in the vicinity of Boston and in the State of Maine with your secretary, Mr. Fisher. In Maine we were met by Philip Dana, one of your directors, as well as a director of the Institute, who kindly accompanied us on a visit to many of the mills. Later I was glad to have an opportunity to visit Fall River and New Bedford, in both places being accompanied by another one of your directors, as well as a director of the Institute—John H. Holt. In all of these contacts with members of your association and of the Institute, I have been impressed with the keen interest displayed in our work and in the increasing willingness to participate in our activities. We need your active participation, your frank criticism and your suggestions whenever matters come to your attention that you think might be improved or changed in a way better to meet the needs of a given situation.

There is at your service the central organization of the Institute and the various Group organizations. Insofar as these are utilized to full advantage, will the mills be able to realize the purposes of the Institute's founders Allow me therefore to urge the continued effort of officers and members of the National Association toward encouraging participation of mill executives in the Institute's activities, particularly in our statistics and cost accounting which are now being promoted.

* * *

Introduces Mr. Duncan

CHM. AMORY.—After the three sectional chiefs of the Institute have spoken Mr. Sloan will be glad to answer any question and we will be particularly glad if you can precipitate a discussion or argument which might bring out some points. The next gentlemen on the program will speak on the Cost Accounting Section. Some of us think we know all about cost accounting and others of us have given up any idea of figuring costs, because we can't get them any way, so what is the use of knowing what they are! That represents two schools; there is a third school who just run and don't know anything. That is the most dangerous school. One of the biggest things that the Institute can accomplish is to arouse a consciousness of costs, and to lay down some of the principles of cost accounting. But it is not to be expected that one small department headed by one man, no matter who he may be, can install cost systems in all the mills, even if he wanted to. And there again it is up to us to keep in touch with the Institute and find out what is going on and take advantage of it, and not wait for somebody to pump the information into us with a hypodermic syringe, because it won't be done. I take pleasure in introducing Mr. George W. Duncan of the Cost Accounting Section.

Cost Accounting by C.-T. I.

By George W. Duncan

I SHOULD like to outline in part the policies and progress of The Cotton-Textile Institute toward developing complete fabric cost systems. No two mills are exactly alike, each may have special problems, worthy of study by competent cost engineers or cost accountants, and vary greatly as to the amount of necessary details, but it is entirely feasible to work up a uniform system of sound and practical principles which can be adopted by the individual plants of the textile industry.

Business cannot continue indefinitely without a profit and it has been said that its very backbone is its cost system. If it is properly designed and used, you will know exactly where you stand at all times, but many of you have been forced to sell at a price below normal cost simply because some individual mill, or mills, have sold goods on inadequate and misleading information which had no proper relation to the cost of production. As I see the situation, it is most important to educate those mills that practically have no cost systems, to realize the advantages derived from adequate and accurate cost data. This will take time, but progress has already been made and it has been gratifying to see the hearty response and splendid spirit of cooperation by the individual members of the Groups that the Institute has approached. I therefore request all the members of the National Association of Cotton Manufacturers to encourage the adoption of sound cost principles as a guide for selling purposes by those mills who do not now properly figure fabric cost.

C. F. Broughton, Board of Directors, N. A. C. M. and Member of Program Committee

The Institute's Idea

Recognizing the importance of uniform sound accounting principles the Advisory Committees of the Institute's Groups have held a number of conferences and a basis has been agreed upon for procedure for the purpose of bringing together in their proper relation all factors entering into fabric cost. A careful study of the general situation has been made and a plan for the organization of activity was decided upon which follows closely the procedure recommended by the Department of Manufacture, Chamber of Commerce of the United States, but differing in the following respect: Instead of having one general Cost Committee for the entire industry, it was felt that it would be most effective to work through the various groups. Meetings of a more or less educational nature were held, Cost Committees to represent each group were appointed. These committees consist of the practical men who are actually doing cost accounting work at the individual mills and their duties will be the harmonizing of the best known practices, with reports and recommendations to the Advisory Committees.

Up to the present moment Cost Accounting Committees have been appointed for the following groups: Carded Yarn, Wide Sheetings, Narrow Sheetings, Southern Section and Eastern Section of the Print Cloth Group. In addition plans are now under way for a similar meeting to appoint a Cost Committee for the Osnaburg Group. We also expect to establish close contact with the Fine Cotton Goods Exchange, which has already given valuable attention to the problems of cost accounting for the fine goods mills.

George W. Duncan, Cost Engineer, Cotton-Textile Institute, Who Spoke at Wednesday Afternoon Session, N. A. C. M.

When these studies are completed it is proposed to draw up an outline of what are considered sound principles, for submission to outside accounting firms and cost engineers for advice and criticism. The approved plan will then be offered to the members of the Institute, but it is distinctly understood that the outline of principles will not be binding upon any mill. In this connection, please bear in mind that the Institute will not attempt to install cost systems in individual mills. The field is entirely too large—therefore, our recommendation is—that competent authority be employed wherever the desired need is felt to exist.

Major Cost Elements

The defining of what constitutes *Normal Production* is a major element of cost. This is the starting point on which a complete fabric cost is based. There are wide differences existing today in the running time of mills, due to local conditions, geographical locations, general conditions of business, and types of mills. I believe the tendency of the majority of executives is to determine that normal production which will give a minimum cost per pound. In other words, costs are based on 50 to 52 weeks per year with 90 to 93% production. This manifestly gives more

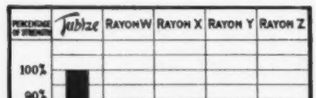
This Yarn Wears Longer

. . . *Why?*

TO meet the mode, present day manufacturers of rayon fabrics must produce materials that are soft, dainty and lovely, yet most vital of all, these fabrics must wear and wear.

Tubize yarns wear longer because they are stronger — and by actual test (as indicated in chart at the right) they are from 10% to 27% stronger than any other similar yarns. Nowhere is this tremendous strength more apparent than in those same dainty fabrics that the mode demands — in the glove-silks, rayon cloths, and stocking fabrics.

Tubize in the fine sizes, used alone or in combination with any other textile, produces the same beauty and loveliness of texture, but, with the added increment of the greatest tensile strength. Tubize-made fabrics wash well, wear well, and look well. Ask any of the many manufacturers now specifying Tubize brand yarns, and they will tell you that Tubize yarn is giving entire satisfaction.



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Tubize

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Brand YARN *Made in U. S. A.*

"WEARS LONGER BECAUSE IT'S STRONGER"

pounds that you can possibly expect to obtain from your mill, and makes no provision for loss of running time by reason of holidays, half days, vacations, enforced shut-downs, etc. Other successful industries in this country have long since abandoned this obsolete principle, and are basing cost on single shift capacity and such normal production as their experience over a period of at least five years, has indicated. The practical application results in a more stable market and costs are figured on a normal which does not represent maximum capacity during prosperous times, nor minimum capacity during periods of curtailment.

If the normal is exceeded there is an over-absorbed burden which should be charged direct to profit and loss, and if the normal is not maintained there will, of course, be an unabsorbed burden chargeable to the same account. The gain in good periods should approximately offset the loss in poor periods.

Results of Overtime

Before leaving the important subject of Normal Production may I say a word of caution regarding overtime operation? My experience has been that most mills do not know, with a reasonable degree of accuracy, the result of overtime running.

Labor—is figured at its proper increase, but rarely are the following items given due consideration.

Depreciation on Machinery and Equipment—should be increased in proportion to the overtime operation.

Power, Supplies, and Repairs, Insurance and Carrying Charges—are usually higher.

Percentage of Irregular Goods, Seconds, Shorts, etc.—are higher.

The Operating Efficiency—is usually much lower.

Then there is the large intangible problem of a lower market price created by the surplus production caused by overtime operation.

It is felt that all of these factors must be taken into consideration in determining to what extent the gain by overtime operation is real or merely apparent.

Many mills today exclude depreciation from cost except in prosperous years. This policy is faulty for it is well known that a plant, when idle, generally depreciates faster than when in operation. Were it not for this tendency to ignore normal and overtime depreciation, this subject would hardly seem necessary to mention. The Government recognizes depreciation—accountants are agreed that it is an item of cost, therefore I cannot too strongly recommend that you include depreciation in all cases.

Interest on Investment

I now turn to another element. *Interest on Investment.* This is a moot subject among accountants. However, the modern tendency is unquestionably toward the inclusion of interest on investment as a cost item in arriving at a minimum cost at which sales can be made and your business continue to enjoy reasonable prosperity.

It is my understanding that the National Association of Cotton Manufacturers, The National Association of Finishers of Cotton Fabrics, as well as the Cost Committee Eastern Section Print Cloth Group recommend the inclusion of interest. In my opinion unless the inclusion of interest on investment be treated as an element of complete fabric cost, sound comparisons between the cost of different fabrics cannot be made.

The importance of correctly arriving at the replacement cost of cotton in determining costs when quoting prices for sales purposes, cannot be stressed too strongly. This does not necessarily apply to those fine goods mills using long staple cotton, which may or may not follow the New York Cotton Exchange quotations. Many plants in the East, however, buy cotton and fix the price based on the New York future market. You gentlemen know full well that when the raw material advances, buyers attempt to place orders at the price prevailing before the advance, but whenever there is a decline in the cotton market, they insist on buying at the lower figure. These facts are not at all consistent.

In this connection I would like to stress the difference between what the general public considers as the advance in cotton prices from what the manufacturers actually have to pay. From quotations of the New York Cotton Exchange, on Oct. 15, 1927, December contracts, were 20.91c. On Nov. 12, 1926, December contracts were 12.48c. From the quotations the public sees an advance in cotton of only 8.43c per lb. On the other hand the manufacturer has his basis to consider, which has advanced materially,

Walter Whipple, Member Program Committee, N. A. C. M.

as well as his waste factor, so that cotton in cloth this year actually cost 26.07c per lb. compared to 15.56c last November. In other words, while the actual market has apparently advanced 8.43c, the manufacturer is forced to pay an actual advance of over 10.51c per lb. As a concrete illustration, take the present situation in Wide Sheetings. The manufacturing margin on 10/4 bleached bolt goods is 6c per lb. less today than it was a year ago. This, translated into plain English, means that the mills making wide sheetings must manufacture for 6c per lb. less to make or lose the same amount. All manufacturing elements are substantially the same, therefore, it cannot be done.

I am very glad to report that at all meetings of the various groups it has been the view that the individual mills base their raw material cost on replacement, rather than book value in determining cost.

Advantage of Complete System

It will no doubt be interesting to quote briefly some of the advantages derived from complete fabric cost systems. They

Enable an executive to choose from

A. W. Reynolds of Program Committee, N. A. C. M.

several styles of cloth those most profitable for his mill.

Result in more intelligent competition within the industry.

Show up constructions which have been sold at a loss.

Act as a guide to the efficiency of the entire organization.

Point out salient facts which can be placed before Governmental bodies.

Inspire confidence in the buyers that selling prices are based on full knowledge of the cost of the cloth offered for sale.

Make it practicable to estimate,

E. H. Marble, Member Program Committee, N. A. C. M

with reasonable accuracy, the cost of the cloths which have not heretofore been made.

Indicate any inefficient use of existing machinery and requirements for additional equipment in order to better balance the plant.

Make it possible to set up production, expense and sales budgets and so forecast the financial requirements.

Manufacturers today are depending more and more on Cost Systems to steer their business through shoal water. It has been proven in steel, automobile and other successful industries that modern methods of accounting will eliminate much of the guess work from their problem and is considered, by many, to be the best insurance against business loss.

* * *

Introduces Mr. Halstead

CHM. AMORY.—Gentlemen, you can see that the subject of costs has a great bearing on the success or non-success of the industry. The next gentleman is in charge of the "Statistical Section." He it is who is endeavoring to gather together the facts in regard to the amount of goods being produced, the amount of goods being sold, and the condition of stocks, so that when they are finally completed we, with due study, can make up our minds how much we can run and how to introduce a cost system. I take pleasure in introducing to you Mr. Paul B. Halstead.

Statistical Section of C.-T. I.

By Paul B. Halstead

IN the main, the efforts of the Statistical Section of The Cotton-Textile Institute have been directed toward obtaining statistical reports from individual mills, compiling them into consolidated statements and mailing these statements to the mills that furnish their figures. In some cases we supplement the statistical work of the Association of Cotton-Textile Merchants, with whose noteworthy accomplishments in that direction you are already familiar, while in other cases we issue reports based on figures gathered entirely by the Institute.

The progress we have made along these lines is attributable to the cooperative spirit arising from the group organizations of cotton manufacturers. We work in close touch with the Advisory Committees of these Groups, and with the special

advisor in statistics, who is appointed for each Group. By following that procedure the Institute obtains expert guidance in determining the kind of statistics most desirable for the particular Group, because it is obvious that each class of mills has its own particular needs. The work we undertake for a Group is in effect the project of that Group, initiated by it and launched by it, the Institute acting simply as an agency for the mills in pushing it along. The Advisory Committees are always ready and willing to help us decide difficult and intricate questions that arise from time to time in connection with the compilation and dissemination of their statistics. I mention these things in order to emphasize the facts that the mills themselves play the predominating part through their respective Groups in planning, developing and carrying on this statistical work.

Within the five months that this Section of the Institute has been functioning we have collected statistics and issued consolidated reports for a number of Groups, including reports on carded sales yarn, on fabrics made from print cloth yarns, wide sheetings, narrow sheetings, osnaburgs, and on the volume of cotton cloth of all kinds that goes through the printing machines of the country. The print cloth yarn Group embraces wide and narrow print cloths, dobby goods, mixed goods, pajama checks, carded broadcloths and tobacco cloths.

Extent of Statistics

The first work of this kind was in connection with carded yarn manufacturers, North and South, who organized their Group last May. Based on a plan formulated by them, we issued the initial report on production of carded sales yarn, stocks on hand, and unfilled orders, for the week ended June 4, representing returns from 80 mills having about a million spindles. Since that first report, the figures have been considerably expanded; the most recent report, for the week ended Oct. 22, was based on over 130 mills having 1,700,000 spindles, which we estimate to be over 60% of all spindles making carded yarn for the market.

The work on wide sheetings was turned over to the Institute by the Association of Cotton-Textile Merchants in August. At that time the reports represented about 40% of all wide sheeting looms. Through the effective efforts of the Advisory Committee of that Group, the reports now issued by the Institute represents 97% of the total looms.

In print cloth yarn fabrics the Association of Cotton-Textile Merchants had been receiving statistics from 79,000 looms. The Institute, by obtaining reports from mills that hitherto had not participated in the work, added 49,000 additional looms, and as a result of these joint efforts, the weekly statistics on print cloth yarn fabrics now comprise about 90% of all print cloth looms.

Our statistics on cotton cloth printed are based on reports from corporation printers and from job printers, and they represent 71% of all the cotton printing machines in the country. In the Osnaburg Group and in the Narrow Sheeting Group the Institute is also making additions, in a small way, to the statistics already being gathered by the Association of Cotton-Textile Merchants by means of bringing in reports from mills that had not previously shared in the work.

Value of Live Statistics

That, in substance, is a record of our accomplishments in statistical

Paul B. Halsted, Statistician for Cotton-Textile Institute who spoke at Wednesday afternoon session, N. A. C. M.

work during the last five months. You may ask, as some do, where the value of statistics is concerned: "What good do they do? What good is accomplished by all these tabulations?" I will say that it depends on the use you make of them. In that connection, an expression used by Abraham Lincoln may be recalled. He once said: "If we could first know where we are and whither we are going, we could better judge what to do and how to do it." If a manufacturer that makes a certain kind of fabric knew how much of that kind of goods was being made each week in other mills besides in his own, how much goods was on hand at the end of each week in all of these mills, and how much of it was sold, he would be in possession of valuable information. He would be in a better position to know what to do and how to do it by having these facts ascertained. He would be able to determine whether he was receiving as much of the business being done as he could expect to secure. I do not claim that with the facts in hand, he would have an easy solution of the problem; but he is surely, as a result of having the facts, able to make better decisions than he would be able to make without them.

I referred to the Wide Sheetings statistics, on which the Institute has obtained reports from 97% of all the looms making that kind of fabric every two weeks. The mills are informed by the Institute as to the total yardage they make of every separate width and construction. This information is based on the individual reports they sent to the Institute. As a result the mills know exactly how much goods in the aggregate they have on hand of all these separate widths and constructions, and similarly, they know the quantity of unfilled orders. This information comes to them within four days after the period covered in the reports. Consequently, the mills are put in touch with up-to-date information as to whether goods are being made in excess of the orders for them. A mill is then surely in a better position to plan its manufacturing schedule when this information comes in hand than without it.

Specific vs. General Data

It is worth while to contrast the specific kind of statistical reports which the Institute is gathering with reports of a more general nature, to which we have all been accustomed in the past and which we usually think of in connection with textile statistics. For example, those of a general nature that I have in mind are the ones issued by the Census Bureau giving a report of cotton consumption each month, spindle activity each month, and the total output of the main classifications of the cotton fabric every two years. Such reports as these are of interest to all manufacturers of cotton and they are made much of by trade publications and economists but, for the reason that they are of such general interest, they have not the specific application for any one particular kind of establishment. It is hard for a manufacturer to be greatly absorbed in that kind of reports; but when a mill man, who happens to be making print cloth 38½-in. counting 64 x 60, weighing 5.35 yards to the pound, receives from the Institute on Thursday of each week a report that shows just how much of that particular fabric has been made in the week immediately preceding by 90% of all the print cloth mills in the country, how much they have on hand and how much they have in unfilled orders for that particular fabric, he is put into possession of a different kind of statistical report; reports that are of an absorbing interest and come very close to home. As a result, he is surely in a better position to govern his manufacturing policy and merchandise his product than he would be without that information. Information of this sort is supplied to mills in our consolidated statements on a long list of separate constructions.

Statistics of the specific nature that I have described are the kind that place the work of the Institute on a practical basis. We are extremely desirous of making our reports useful and usable, and wish that the mills would bear in mind that we would appreciate suggestions from them to this end. We must rely on the mills to see to it that we are kept on the right track and do not stray off into less practical directions in our statistical work. From the statements that a number of mills have made to us about this work, we are encouraged in the belief that as far as we have gone it has already been of practical value.

* * *

Introduces Mr. Morse

CHM. AMORY.—Gentlemen, the last chief of section that we have to hear from is to bring up the important matter of instituting, or declaring, or promoting, or enlarging the use of cotton in its manufactured form. I take pleasure in introducing to you Mr. Ernest C. Morse, who will tell you something of the work that is going on in that direction. Mr. Morse.

New Uses Section of C.-T. I.

By Ernest C. Morse

FROM time to time you have heard of the New Uses Section of The Cotton-Textile Institute. The section is about six months old having been formed on April 15, 1927.

Although carefully selected as descriptive of one of the primary purposes of the Institute, I find the name causes some confusion and misunderstanding. The Section has undertaken to extend existing uses as well as to develop new uses. Indeed while it may be difficult to find many entirely new uses, it will not be difficult to find old uses with large potential markets. Thus an old use becomes a new use and it is our hope to revive and extend many of them.

In the extending the many present uses we find that there must be considered such things as simplification in the number of sizes, standardization of the construction, the proper specification under which the fabric is to be purchased, and sometimes study is required to determine the best fabric for the specific use.

The activities of the Section are for convenience divided into simplification, standardization, specification, testing, technical studies or applied research, cotton cloths for industrial uses, cotton cloths for domestic purposes, export, cooperation with other associations and the various Government agencies.

Simplified Practice

You are all familiar with the recent simplified practice as to institutional and hospital cotton textiles that became effective Oct. 1. Fourteen associations, six Government purchasing departments and over 500 individual hospitals have already accepted the recommendations which

were announced following the conference in Washington last June. Among other things this calls for a reduction in bed sheet sizes from 50 to four, standardizing on 99-in. and 108-in. lengths. It was further agreed that 108-in. was considered the proper length for the standard institutional bed, although the original survey indicated only 20% were 108 in. The New Uses Section took an active part in this program.

We now have under consideration the feasibility of similar simplification and standardization in bed sheets for the home.

It has been suggested that too many sizes of bedspreads are now manufactured and sold. A survey shows over 40 sizes. Fourteen mills or their selling agents have been interviewed and all express the desire to reduce the number of sizes. In the immediate future we shall therefore call a meeting of bedspread manufacturers and distributers, to determine if it is their desire that we ask the Department of Commerce to call together the manufacturers, distributers, retailers and consumers and endeavor to work out a simplified practice in this branch of our industry.

We invite suggestions from the members as to other simplifications which appear desirable.

Inquiries Handled

We are asked by consumers from time to time to furnish specifications on which they can buy to meet their requirements. For instance a consumer, through the Textile Committee of the National Association of Purchasing Agents asks what cotton fabric he can buy that will have a certain weight and strength, stating the price of the fabric then offered was 1c per yard more than the price of the fabric then being used. Within a few hours we wired specifications on two materials meeting his requirements as to weight, strength and price, having taken the matter up first with mills' representatives concerned.

It developed last spring that the Navy and War Departments were having trouble in obtaining certain aeronautical cloths. Cooperating with your association and Fine Cotton Goods Exchange conditions in the specifications were called to their attention as putting an unnecessary burden on the manufacturer. We were then invited to attend a joint meeting of the Army and Navy Engineers at Wright Field, Dayton, Ohio, Sept. 9. The result was a reduction of specifications from nine to four on balloon cloths, the elimination of many undesirable features and the agreement that before any new cloth specifications were issued in the future, they would first be submitted to the industry for comment.

A four month's survey of the purchase of cotton cloths by the Government indicates an aggregate of approximately $925,000 for piece goods alone. Smocks, underwear and articles of cotton material added an amount in excess of $500,000. It is therefore evident that the Government departments purchase annually at least $4,500,000 in cotton cloths or articles made from cotton cloth. Our survey shows that 67% of the awards on piece goods are in excess of $1,000 in value and that only 11½% of this business was awarded directly to the manufacturer or his selling agent.

Distributing Calls for Bids

We have arranged to get all requests for bids direct from Government Purchasing Officers and within 24 hours of their receipt they are distributed to the selling houses through the cooperation of the Association of Cotton-Textile Merchants of New York.

The Government has expressed its desire to deal directly with the manufacturer, insofar as this may be practicable. The Institute has established contacts in Washington whereby we expect to bring about a better understanding of the manufacturers' problems by the Government and also bring to our members an understanding of the Government Purchasing Agents' Problems.

Last February for the first time in this industry a joint committee was formed with representatives of the Government from the Departments of Agriculture and Commerce and from the Institute. This committee has held three meetings. It has undertaken to make a survey or census of the various kinds of cloths manufactured and as far as possible the various uses to which they were put. We, on our part, sent 453 questionnaires to our members and have received and tabulated 119 replies.

The Department of Commerce is making a similar canvass among nonmember mills, converters, distributing agents, allied industries and industries at large. They have been sending out questionnaires for the last three months and will send out over 5,000 in all.

The Department of Agriculture has made a similar survey as applied to the farm and home. The results of the surveys made will be consolidated and distributed. We anticipate that suggestions will be secured that will be of value in our work.

The Bureau of Home Economics now has on the press the results of a study of trend over the last five years to or from cotton for wearing apparel for men, women and children and also for many other household uses.

Fabric Improvements

Because of such conditions as these and because we are continually being told that this or the other market could be entered if the cotton fabric was fireproof, was stronger, didn't tear so easily, was more easily washed, etc., we have placed a Research Associate at the Bureau of Standards. This was decided on after a careful study of available facilities for practical tests and experimental work. A. A. Mercier who was selected, has had many years' practical cotton mill experience, and has available at the bureau for consultation, experts on practically every line of chemistry, physics and mechanics, as well as a small but completely equipped cotton mill and testing laboratory. Problems of many types can and will be studied and we ask you to suggest subjects that in your opinion should be covered.

We believe much assistance in our work can be secured through other trade associations and have established cooperative contacts with over 20 associations such as: National Association of Purchasing Agents, American Wholesale Grocers' Association, Textile Bag Manufacturers' Association, National Tent & Awning Manufacturers' Association, As-

Ernest C. Morse, Head of New Uses Section, Cotton-Textile Institute, who spoke at Wednesday afternoon session, N. A. C. M.

sociates for Government Service, and Associated Business Papers.

The first step taken in the big field of export has been with the assistance of the Export Committee of the Association of Cotton-Textile Merchants of New York. Working together, a new classification for export statistics for cotton cloths has been developed. We have been successful in securing the adoption of this new classification by the Division of Statistics, Department of Commerce, to become effective Jan. 1, 1928. Five classifications are subdivided into 19 in such a way as to make the statistics much more valuable in any export study. A glossary of cotton cloths indicating the proper classification of each will be prepared and distributed prior to Jan. 1 to all exporters making it possible for everyone to quickly, easily and properly classify every export shipment.

While exact figures are not available, it is generally known that the big majority of woven cotton goods in this country is consumed by the industries. Before constructive work can be done toward extending the use of cotton in this field, we believe it essential to find out what is now used and how, what the advantages or objections are, what the potential market is and who controls what fabric or material that is to be used. This information is often unavailable, and requires a great deal of time and work to obtain.

One of the biggest industrial uses is for containers or bags for all sorts and kinds of products—from sugar to machine parts; from flour to nuts.

Study of Containers

In our studies on containers, we have entered many fields and now have available for our members considerable information. Our study of the cement bag situation indicates that the use of paper has been rapidly increasing the last few years, that while this market now consumes annually about one hundred million yards of osnaburg, if paper continues to increase at the same rate as during the last three years, less than eighty million yards of osnaburg will be required in 1930, a decrease of over 20%. One of the big arguments advanced for the paper bag is that it withstands water better. We propose to find out if this is true and if so, how this fault in cotton may be remedied. In this we are cooperating with the Textile Bag Manufacturers' Association who are also vitally interested.

Tents and awnings now consume about one-half the cotton duck produced. A study develops that fact that in Atlanta awnings cannot be installed above the second floor; in New Orleans they are not allowed on office buildings—all because of the danger of awning fires. While in most cities, such laws do not exist, the fire hazard retards their use. A study is now started of all known methods of fire resisting treatments with the hopes that such study will develop a satisfactory method of treatment for cotton fabrics and thus make possible increased yardage consumed for awnings.

That new uses for cotton may from time to time be found is illustrated by our study on Traffic Guides. These consist of letters painted or stencilled on cotton fabrics and cemented by an adhesive to the road or poles.

Home Uses of Cottons

Returning to the subject of the use of cotton cloths in the home or for domestic purposes, a preliminary study in connection with bed sheets used in the home brings out two facts—

(1) That constructions 64 x 64s and under are principally sold in 90″ lengths, and only in the finest counts is there any considerable quantity of 108″ sheets marketed.

(2) Discussions with people who have made a study of home economics and bed making, such as Dr. Stanley of the Bureau of Home Economics, Miss Fisher of the Goodhousekeeping Institute, and others interested in this work, disclose, as their personal opinion, the fact that with the 73″ mattress a 108″ sheet is necessary to make a comfortable and good looking bed.

We are now preparing a suggestion for a promotional campaign to be undertaken by our Wide Sheetings Group with the idea of putting before

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the consumer the economic reasons why a 108" sheet should be used. There is already reported a decided trend toward increased purchase of longer sheets and several of the individual manufacturers are in their advertising, advocating the use of a bed sheet 108" long.

We recently secured a list of over 3,000 teachers of Home Economics in the schools and colleges throughout the country and selected at random some 225 names from this list. To these teachers we sent a letter and enclosed reprints of two articles—"New Cotton Damasks" and "A Reformation in Sheets" with a request that they advise if this and similar material was of value in their work.

To date we have received replies from about 10% and in nearly every instance they have asked for additional copies. In other words, these 20 odd replies have asked for over 1200 additional copies of these articles. We have, within the last week, therefore, sent the same letter and enclosures to the balance of 3,000 odd teachers and if the ratio of replies and requests for additional copies is maintained, we will be in a position to disseminate several thousand additional copies in a most effective manner.

By this means we are putting information regarding cotton fabrics before the scholars of today who are the buyers of tomorrow and who in turn undoubtedly take the material home and put it before other members of their family who are the buyers of today.

Cotton Wearing Apparel

One of the most important markets to your members is wearing apparel, both under and outer, for the women of this country. Here, we all know, the question of style plays an important part. There is undoubtedly a growing realization of this and much has already been accomplished by the Industry but we believe there is a great deal more that can be done in this direction. Today, cotton is being used for expensive dresses. For instance, one Fifth Avenue store is selling styled cotton dresses for $65 to $285 each. The same store is selling cotton piece goods for as high as $4.30 per yard.

Mr. Sloan has already expressed the Institute's appreciation for the splendid cooperation afforded us by your association. Much of that cooperation has been directly with the New Uses Section and has proved of inestimable value to me. I want particularly to express my appreciation of the assistance given me by your Secretary, Mr. Fisher. I want to again call your attention to the fact that the Institute was created to serve its members and we can serve best if you will bring to us suggestions of markets, big or little, suggest lines that can be simplified to the advantage of the industry and consumer, and actively assist in creating a demand for cotton on the part of the buyer for each new or extended use developed.

Discussion of Institute Addresses

CHM. AMORY.—The meeting is now open for discussion. If we can get some questions, or arguments, or fights of any kind we shall be very grateful. Mr. Sloan, who is sitting here, will answer any questions that he can. Mr. Duncan, Mr. Halstead and Mr. Morse are still with us. Can't we obtain unfavorable criticism or any other means of starting a discussion?

MR. MARBLE.—Mr. Chairman, I should like to ask if there has been any investigation made of the difference in the nomenclature between American fabrics, and the English, German and French; more particularly the English fabrics?

CHM. AMORY.—Mr. Sloan says there has not been as yet any investigation of that. I believe that is a very good suggestion, Mr. Marble.

MR. MARBLE.—At a meeting which I attended in England I showed a sample of cotton fabric and got seven different definitions of it, all from prominent England manufacturers. When I showed them the customs declarations which gave another name still, they "scratched their backs." The English nomenclature is very different from the American and in many cases is quite confusing.

CHM. AMORY.—I think that is a very good suggestion and should be looked into. Mr. Sloan is making a note of it. Is there any other suggestion, or criticism? Mr. Sloan says that the thing that helps him most is criticism and he urges you to come forward without any feeling that you will hurt his feelings at all.

Cost—Basic Principles or System

MR. LEONARD.—Mr. Chairman, when will the cost data be available?

CHM. AMORY.—Can you answer that question, Mr. Duncan?

MR. DUNCAN.—Just as soon after the first of the year as we can get it approved. We are working on it.

CHM. AMORY.—Are there any other questions? I think Mr. Leonard's question leads to a general feeling which I know Mr. Sloan fears and that is that it seems terribly slow for the Institute to obtain results. I think when you look back and realize that it is only six months or less that most of these sections have been organized, that it is pretty difficult to expect results, but I am glad to hear that Mr. Duncan feels that results will be coming from his work in January, which is less than 90 days from now.

MR. LEONARD.—It seems to me, Mr. Chairman, that if he will give us those figures by that time that his section will have done a splendid job, I did not mean to present any criticism. On the contrary, the paper of Mr. Duncan, it seems to me, is particularly clear and effective and should be very helpful.

CHM. AMORY.—I do not think any of us considered that in any other nature than a question. We were looking for criticism, but we got a question.

MR. DUNCAN.—May I say just one word? What I had reference to when I said we hoped to be able to give you something useful by the first of January, does not mean any particular figures, nor does it mean a complete cost manual. It simply means an outline of what we consider sound and practicable principles which we believe can be adopted by each of the individual mills. We have been confronted by two problems: One is to confine our activities to a code of sound principles. The other is the issuance for publication of a complete cost manual. And if it is in order, Mr. Chairman, I would like to get an expression from this assemblage

A GROUP OF LORRAINE MFG. CO. EXHIBITS AT N. A. C. M. STYLE SHOW

Left—Lorraine chiffoden in shimmering sea green flecked with embroidered motifs in rose, sponsors the fuller hem line with a skirt of fine pleats.

Right—Smart dress for street wear of Napoleon blue Lorrayon plaided with black and white, and showing a small dobby figure in self color. Both shown by Lorraine Mfg. Co. at N. A. C. M. style show.

A softly feminine mode for summer of 1928 is forecast by this combination of Lorraine chiffoden in wild-rose pink and circular ruffles in a three-tier skirt. An embroidered figure in deeper rose and gray adds interest to the fabric. Shown by Lorraine Mfg. Co. at N. A. C. M. style show.

Golden yellow Lorraine crocodene is used in this three-piece sport outfit shown by Lorraine Mfg. Co. at N. A. C. M. style show. The trimming of the jumper is the same shade of yellow crocodene striped in pale maize, and the coat is lined with the stripes.

Lorraine crepe chiffon, a new fabric for 1928, was used in pale peach shade for this dress, featuring the irregular hem line and softer silhouette. The fabric is exceptionally fine and has draping quality of fine silk. Exhibited by Lorraine Mfg. Co. at N. A. C. M. style show.

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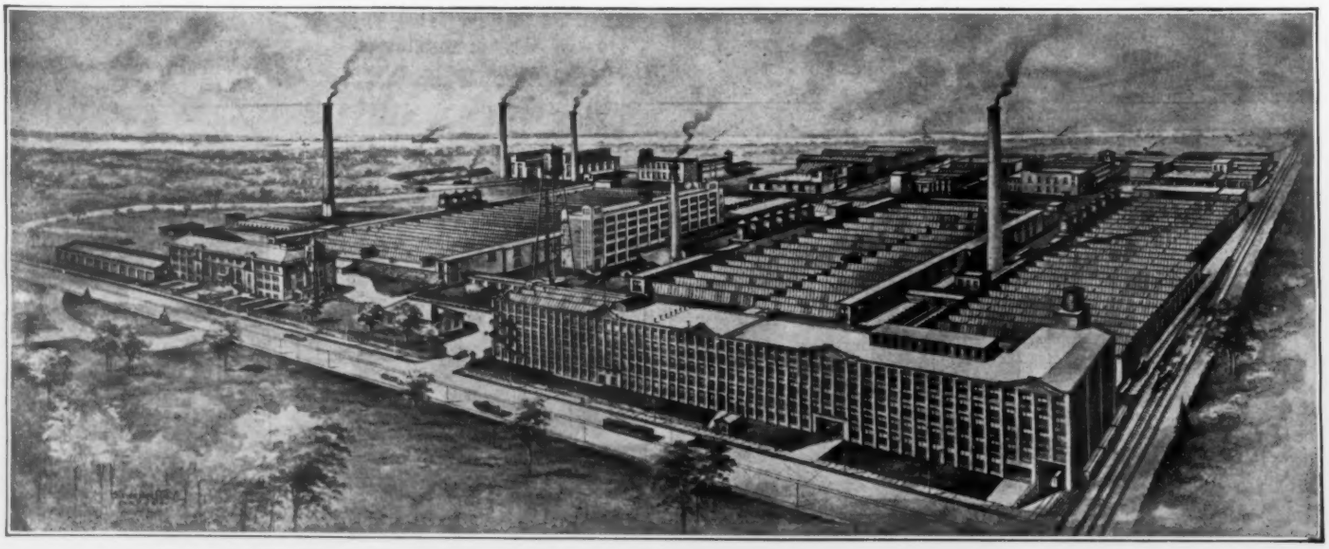

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as to which would be the most advisable move.

CHM. AMORY.—Has anybody anything to say on that subject; whether you would like to see the principles first or a complete cost manual?

MR. DUNCAN.—The manual, of course, would take much longer.

CHM. AMORY.—The manual, of course, would be much later.

MR. DUNCAN.—It is a question of advisability.

What is a Cotton Mill Product?

MR. SOMMARIPA.—I have been wondering whether the New Uses Section is going to take up only the development of cotton fabrics, or whether it will consider all kinds of fabrics made in cotton mills irrespective of the raw material—silk and cotton, rayon and cotton or rayon?

CHM. AMORY.—I assume that excludes all silk.

MR. SOMMARIPA.—Why, no. Some of our cotton mills are silk mills, only they don't know it.

MR. MORSE.—Our activities are entirely confined to matters of interest to cotton mills. We have not undertaken as yet the studies of any mixed fabrics. There is one question which we have been asked by one of the groups to take up which requires a mixture of another fiber with cotton. I would not want to say that we will not consider production of any fabric used in the cotton mill for the benefit of the cotton industry.

Praise for the Press

CHM. AMORY.—Are there any suggestions as to other activities which the Institute might undertake?

PRESIDENT MACCOLL.—We have heard that some people felt there was not enough publicity coming out of the Institute. Have any of our members the feeling that the publicity department is not functioning enough—whether there might be broader publicity afforded by the Institute? That might be answered by Mr. Sloan, or it might lead to questions by the members.

CHM. AMORY.—Has anyone on the floor anything to suggest?

MR. LEONARD.—I should like to second the motion of Mr. MacColl in the matter of publicity. It seems to me that the paper that Mr. Duncan read had points that applied to our industry and help to educate our-siderable publicity. It would help the industry and help to educate ourselves. Perhaps that would be a natural outcome of this meeting.

MR. SLOAN.—I would like to say just one word in connection with publicity since it was not touched upon in the remarks made by any of the members of our staff today. I know that Mr. Hines will appreciate the comments of Mr. MacColl and that coming from Mr. Leonard. Since the Institute has started we have always been confronted with the problem of informing the mills properly as to the activities that we have undertaken and there are always in that question two sides to be considered. First of all, there is the busy mill executive who does not want to be bothered with too much detail. On the other hand, the executive next door will tell you, "You are not sending me enough." So you must strike a compromise. Before touching the Press, the Trade Press particularly, I would like like to say that we have inaugurated a letter of information to members. That, Mr. Leonard, is published about once every six weeks. We have only gotten out three so far. In that letter of information we do cover in a very detailed way everything that has taken place in the Institute and we are continually inviting suggestions, comments and criticisms from members. So far we have not received many suggestions and comments. We have had a number of very fine letters of endorsement of that information. But I was sincere when I whispered to Mr. Amory just now that I wished we could have more criticisms, because I know there has been a feeling on the part of—I will not say a large part, but a part of our members—that they are not being sufficiently informed as to what is taking place. In order to reach the busy man who has not the time to read through 12 or 15 typewritten pages in our letter of information, in our next letter we propose to inaugurate a little box column at the head of each subject which will tell briefly what is going to appear below.

As for the Press, I would like to take this opportunity to express our very deep appreciation in the Institute for the splendid cooperation from the general newspapers and the trade papers and trade magazines in this section of the country. Mr. Hines expressed his appreciation of the Press in general the other day, and I can assure you that that was very sincere. Such papers and magazines as the TEXTILE WORLD, *Commerce & Finance*, the *Dry Goods Economist* and that group, *Fiber and Fabric*, the *American Wool & Cotton Reporter*, the Fairchild Publications, including the *Daily News Record* and the *Journal of Commerce;* and then, going beyond that group of strictly technical papers, the financial papers, such as the *Boston News Bureau*, the *Wall Street Journal* and other publications of that character, have not only used all the information in detail that has been given them by the Institute, but they have gone beyond and have written many, many splendid editorials about the various activities that have been undertaken. I would like to point out to you some of the particular editorials that I have in mind. I will not take the time today, because it would take the rest of the afternoon; I could go on into the evening pointing out some of finest editorials that have ever been written about this industry. The very latest one I have in mind was written here in this city. In the *Boston News Bureau* the day before yesterday there is a leading editorial in large type on the front page referring to Mr. Hines' address, and I hope that all of you will read it. I hope that all of you will read the TEXTILE WORLD just out which has a splendid editorial regarding the first year's activities of the Institute. In *Commerce & Finance*, which you will find on the table back there, you will find a splendid editorial on "Textile Fabrics and Factories." There is a splendid editorial on the Institute's first year's activities. The *Daily News Record* devoted a large part of its paper the day following our annual meeting to the various discussions that took place and to a number of editorials. The *Journal of Commerce* likewise devoted two or three pages to the Institute's meeting. I have not followed some of the others quite so fully, but I merely mention those, so that you will know—I am sure that you already know—that we have the splendid support of the Press, particularly the Trade Press. I do wish that some of you would give us further suggestions as to getting information of value to our members. In addition to that letter

PEPPERELL MFG. CO. EXHIBITED THESE MODELS AT STYLE SHOW

This attractive and practical juvenile dress is of lilac-checked Peggy cloth with matching Pepperella. Exhibited by Pepperell Mfg. Co. at N. A. C. M. style show.

Coq d'Or—Printed cotton and rayon with matching crepe was used in this afternoon frock of rich golden shade exhibited by Pepperell Mfg. Co. at N. A. C. M. style show. The subtle hip line is achieved by snugly fitting blouse bands and is in contrast with the gracefully flaring skirt.

Oiseau Bleu—Possibilities of fine cotton and rayon fabrics for evening gowns is demonstrated in this gown exhibited by the Pepperell Mfg. Co. at style show. It is of orchid blue, fashioned along the sinuous lines sponsored by Paris. It is draped lower in back than in front.

Parroquet—This sport model shown by Pepperell Mfg. Co. at N. A. C. M. style show, is of jade green and white Pepperella, blouse with geometric applique in the modern manner and smart pleated skirt.

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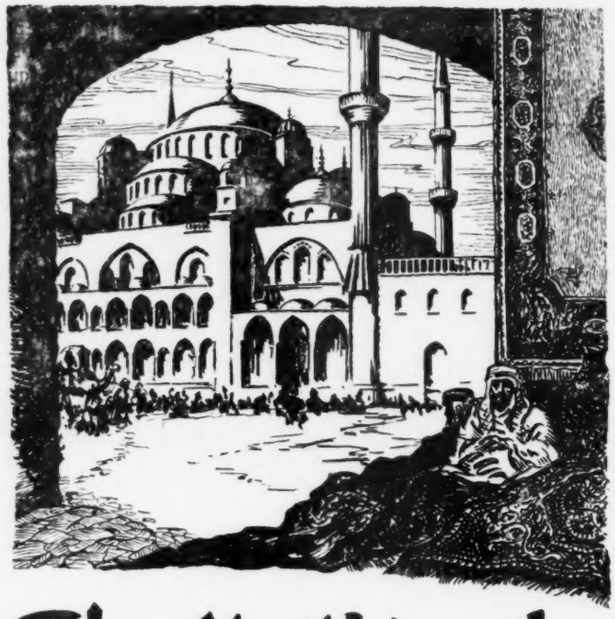

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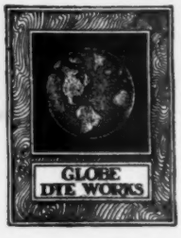

we are just starting to send out literature. The fabric road markers referred to by Mr. Morse was put up in story form, illustrated with photographs and sent out to you the past week. Statements prepared by Mr. Hines on various subjects have been published from time to time. But I know there is room for improvement; I know that there is much more that can be done and I will welcome any suggestions from you.

Suggests School Cooperation

CHM. AMORY.—Will that plea rouse any further questions?

MR. EAMES.—I rise not with any thought of any new suggestion as to the field of work which the Institute has established. It seems to me that they have a large field of work to carry out for the benefit of the textile industry. But in connection with Mr. Morse's remarks I was particularly interested in one field of activity which takes them to the Bureau of Standards for their technical work or research. I am particularly glad to know that they have secured the services of someone who will carry on those investigations. Of course, you will agree with me, I think, that no one man knows it all, and I am making the suggestion that if there are some problems that cannot be solved by the Bureau of Standards, and they wish other advice, that they might look to the instructing staffs of the various textile schools throughout the country. Let me say in this connection that the staffs would be very much interested to have those suggestions brought to them. I think I speak not only for Lowell but for all textile schools. We are anxious to have those problems brought to us. We are anxious to keep in touch with the industry, and I think that you will be doing a great thing if you will bring some of those problems to us, because it will be not of immediate value but will be of far reaching value in this respect: That the students that attend those textile schools will have an opportunity to know something of the work which you are doing, and the problems with which you are confronted, and in that way they will see the solutions and will avoid the difficulties and pitfalls which you are trying to avoid now, when they become treasurers and managers of mills. I think it will prove part of a great educational policy if you will bring something of the problems which you cannot solve at the Bureau of Standards to the staffs of some of the textile schools which they will be glad to undertake.

CHM. AMORY.—I think that is a good suggestion and I have already noticed that Mr. Sloan has made a note of it. Are there any further questions. If not, this session is adjourned until tomorrow morning.

Boston Mfg. Co. Wins Prize for Best Mill Exhibit at Style Show

Dress Prizes to Pacific, Lancaster, Pepperell and Nashua—Paul Poiret, Parisian Couturier, Present

DISTINGUISHED by the presence of Paul Poiret, famous couturier of Paris, who attended the convention as the guest of Alexis Sommaripa of the Dupont Rayon Co., and by a galaxy of the country's style experts, including Mrs. M. H. Rorke of The Textile Color Card Association, Miss Elizabeth Goan of *Women's Wear*, and Miss Julia C. Coburn of *Harper's Bazaar*, who acted as judges, the third annual style show of the National Association of Cotton Manufacturers set a record that will be difficult to beat in coming years.

The Prize Winners

The prize for the best mill exhibit as a whole was awarded to the Boston Manufacturing Co., and this company also carried off the prizes for the best yarn-dyed morning dress (of "Gilbrae") and for the best child's dress of yarn-dyed material, also a "Gilbrae" model. The Pacific Mills carried off the prizes for the best sports costume of yarn-dyed fabric with its "Rayon Crepe," and for the best morning, afternoon and child's dresses of printed materials, these being of "Meadow-Lane Cloth," "Mayame Crepe" and "Pacific Dimity" in the order named. Pepperell took the prize for best yarn-dyed evening gown with its "Lumiere Rayon," and Lancaster Mills the prize for best yarn-dyed afternoon frock with a "Lansheer" model.

Lorraine Mfg. Co., with six entries, and York Mfg. Co. with five made highly creditable displays, but failed to land prizes. There were 37 entries, not including the 12 dresses shown in the so-called "Cutters Class," and all, including the latter, were exhibited on mannequins who started their parade under the direction of Miss Laurice T. Moreland, chairman of the Style Show Committee, and under the eyes of the judges and the audience immediately following a special dancing act put on to stimulate digestion while the diners were finishing their ices and coffees. It was remarked by some of the least blasé in the audience that, as the dancers neared the conclusion of their act, it looked as though it might be necessary to conscript some of the Style Show exhibits for their protection. However, the transition from the dancer's negligees to the model gowns displayed by the mannequins was rendered less abrupt by a view of certain of the evening gowns worn by the latter.

Features of the Show

What a drawing card it would have made for the style exhibit if it could have been announced sufficiently in advance that "the great Poiret" was to grace it with his presence. Perhaps it was fortunate that it could not be for the ballroom of the Copley Plaza could not have accommodated such an audience, and the only other suitable room in the hotel was packed full of

EXHIBIT BY BOSTON MFG. CO. WHICH WON STYLE SHOW PRIZE

A morning or school dress of fresh, cool blue and white plaid Gilbrae made by the Boston Mfg. Co. and exhibited at the N. A. C. M. Style Show.

A sports wear model of Cobra, a cotton and rayon fabric made by the Boston Mfg. Co., and said to be smart enough for use also in afternoon frocks. It was exhibited at the N. A. C. M. Style Show.

This phantom check is one of the novel cotton and rayon fabrics shown at the N. A. C. M. Style Show. It was exhibited by the Boston Mfg. Co. The garment is a smart afternoon dress in two shades of green.

Here is a frock cut to adapt itself to the gold stripes crossing on a white ground. The fabric is Saturn, created by the Boston Mfg. Co. and exhibited at the N. A. C. M. Style Show.

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Episcopalian clergymen and laymen, who had graciously given up a prior lien upon the grand ballroom to the Association and their dancers and mannequins.

We do not know whether presence of "the great Poiret" penetrated to the Episcopalian precinct, but it is a fact that, despite lack of public notice of his being a guest, it was voiced about the hotel lobby late in the afternoon, and among the ladies who crowded the gallery during the exhibition were many who were garbed as gaily as for an Episcopal dinner.

And how the Poiret presence made the mannequins, style experts and exhibitors chatter as soon as it became generally known. Farthest from their thoughts was the possibility that he would manifest real interest in the show; but he did, and not only that, he actually requested (perhaps demanded) a close-up of the model dresses; expressed freely to the worshiping listeners his opinion of fabric and design, and expressed particular appreciation of (listen, ye doubters!) certain of the rayons; perhaps all of them. A "Lumiere Rayon," shown by Pepperell, is claimed by the mannequin who wore it to have most keenly stimulated the Poiret enthusiasm. However that may be, time was lacking to interview the other mannequins, and to the Press "the great Poiret" was discretely silent. As this is not a fashion magazine, and as it remains necessary to indulge in considerable fashion language regarding the model gowns, that will be enough for the present about Paul Poiret, excepting to express the opinion that the group of textile manufacturers who could persuade a Poiret to act as its counselor and headlines in a publicity campaign aimed at the retailer and consumer would make ten-strike, or "what have you."

FROM NASHUA MFG. CO'S. EXHIBIT

The twins shown here are ready for the beach attired in garments of Indian Head Print made by the Nashua Mfg. Co. and exhibited at the N. A. C. M. Style Show.

A beach costume exhibited at the N. A. C. M. Style Show. The bathing suit of white and green and the coat to match are of Indian Head Print made by the Nashua Mfg. Co.

And now picture, if you can, the grand ballroom of the Copley Plaza with double rows of tables, seating four to six each, extending along both sides and across the end opposite the orchestra, with a dias at that end for the judges, and the remainder of the floor open for the mannequin's parade and later for dancing, and you may then be able to visualize the audience of about 300, nearly half of those present ladies, with the riot of color and eclat. That last word we believe to be French and U. S. fashion writers are not yet weaned of their French environment, as you will see after we place on record the fact that the Association is to organize another traveling style show featuring the prize winners, and that it owes a debt of gratitude to the exhibitors and the Style Show Committee of which Miss Laurice T. Moreland was chairman.

The Distinctive Boston Exhibit

"Cobra," which is among the 1928 features of Boston Mfg. Co., was one of the most distinctive at the show. It was seen in a yellow sport dress, suitable for the tea dansant. Another of the new numbers of Boston Mfg. Co. is the "Phantom Check" which was presented in a chic afternoon dress in two shades of gray. "Saturn" in cotton and rayon with rayon gold stripes crossing on a white ground was the third in Boston's advance showing, and was fashioned in a frock cut to meet the lines in the fabric. A smart morning or school dress was shown in "Gilbrae," in a cool, fresh looking design of blue and white. One of the most pleasing of the children's dresses, was of "Pebblesheen," also a Boston Mfg. Co. product, the little frock being fitted over the shoulders and with long pleats to give fullness.

Lancaster's Novelties

New shaded effects in weaving are presented in "Lansheer," one of the Lancaster Mills novelty fabrics, styled in an afternoon frock with an irregular hem line. White "Chevrae," another new Lancaster product, was shown in a sports dress, the fabric having a raised rayon chevron weave following the mode for diagonal effects. "Eponette," also a novelty for 1928, was presented in a dainty frock in a large blue and peach check with coat of the same texture in plain peach. Orange "Luminere" was exhibited in a novel orange and white check, new for 1928, the dress being for sport wear and decorated with buttons and a buckle to match. The Lancaster Mills exhibit was completed with the showing of a brother and sister outfit showing "Kalburnie" in a homespun weave in a school suit and dress.

Lorraine's Showing

London and Paris again sponsor the idea of dressing the daughters of a family alike and with this idea Lorraine Mfg. Co., presented little "sister dress" of "Lorraine Swiss Faconne" with multi-colored dots on a white ground. A smart dress for street wear was fashioned in Napoleon blue

A GROUP OF EXHIBITS BY PACIFIC MILLS

Dainty child's frock of Pacific dimity exhibited by Pacific mills at N. A. C. M. style show. Hat, frock and bloomers all made to match. The little dress is handsmocked with blue. The colors are proof against sun and frequent tubbings. The hat buttons the crown to the brim.

Smart sports dress of Pacific Reo Charm, a fast-color washable, gold-printed cloth, exhibited by Pacific Mills at N. A. C. M. style show. This costume is in soft Lanvin green with nail-head design in metallic gold. It is a sleeveless tennis frock for the active sportswoman.

Picturesque party frock of Pacific printed batiste exhibited by Pacific Mills at N. A. C. M. style show. Coloring is a summery red design on white. It is in sleeveless effect, bouffant in style, with skirt banded widely at the bottom to match the large rolling white collar.

Smart afternoon dress of Pacific Myame crepe, in tan and brown, exhibited by Pacific mills at N. A. C. M. style show. This is a soft silk-and-cotton fabric, printed in lovely shades of tan and brown. The frock is in one-piece style with skirt fullness shirred in novel manner.

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PACIFIC'S JUVENILE CONTRIBUTION

Kimona in form of a mandarin coat for a child exhibited by Pacific Mills at N. A. C. M. style show, and made of Pacific kwanto crepe. It is in blue with a "Goofey" print dog appliqued.

Clever pajamas for a child, of Pacific kwanto crepe in an amusing "Goofey" print, exhibited by Pacific Mills at N. A. C. M. style show. They are bound on the edges with red.

"Lorrayon," a cotton and rayon fabric plaided with black and white.

The softly feminine mode for the summer of 1928 was forecast in the combination of "Lorraine Chiqonden" in wild rose pick and circular ruffles in a three tier skirt. An embroidered figure in deeper rose and grey adds interest to the fabric. The fuller hem line with a skirt of pleats in Lorraine Chiffoden of a shimmering sea green flecked with embroidered motifs in rose, was another of the Lorraine exhibits. This was followed by a three-piece sport outfit in "Lorraine Crocodene," a crepe chiffon, one of the new fabrics for 1928, fashioned in a dress featuring the irregular hem line and softer silhouette.

Nashua's Indian Head Prints

Indian head prints were shown by Nashua Mfg. Co. Two morning dresses in futuristic designs; a sport suit of green and white; and beach outfit for a boy and a girl showed the desirability of this fabric for such garments.

Pacific Mills Exhibit

The Pacific Mills exhibit included a smart two-piece afternoon dress, with skirt fullness shirred in a novel manner, of "Myame Crepe" a cotton and silk fabric printed in tan and brown that gave unusual charm to the frock; a rayon crepe sports costume in Chanel red with contrasting bindings in black rayon crepe worked in scallops down the front fastening of the blouse and on the sleeves; another of "Reo Charm," a fast-colored, washable cloth in soft Lanvin green, with nail-head design in metallic gold fashioned in a sleeveless tennis frock; a simple morning frock of "Meadow Lane," printed in clear blue on white, the dress belted and bound in matching blue "Pamico cloth" at the neck, wrists and pockets, and a dainty touch of organdie introduced in a fold at the neck, set on open work stitching; blue, pat green and tan "Zemora Lustre" were used in interpreting another of the patterns, the blue being accented in matching crepe de chine trimmings on collar and cuffs and stitched belt; a child's frock, with hat, frock and bloomers to match was shown in Pacific Dimity.

An orchid-blue cotton and rayon evening gown fashioned along the sinuous lines sponsored by Paris was among the Pepperell Mfg. Co. exhibits. The gown was draped lower in the back than in the front and the skirt faced with rose taffeta. An afternoon frock in a rich golden shade of printed cotton and rayon with matching crepe was particularly fetching. Snugly fitting blouse bands achieved a subtle hip line in contrast with a gracefully flaring skirt. A sport dress of jade green and white "Pepperella," having a blouse with geometric applique in the modern manner and a pleated skirt was another of the Pepperell numbers. This part of the revue also included an attractive and practical child's frock, in lilac checked "Peggy Cloth."

"The cotton textile industry is gradually emerging from a long siege of unprofitable conditions. The recovery has been slower than expected. Many valuable lessons have been learned during this period of depression, possibly the greatest of all the realization of the absolute necessity of cooperation. It apparently required an experience such as we have passed through to arouse us sufficiently to organize a great clearing house such as the Cotton-Textile Institute."—*From address of Pres. Wm. B. MacColl at N. A. C. M. Association.*

The York Models

A boudoir ensemble by York Mfg. Co. was one of the novel features of the show. It was fashioned in "Cleone," a cotton and rayon fabric, soft and smart in three-piece styling, of delicate blue. A coat of basket weave with a silver brocade effect was in blue and white, the white mirabou being the only trimming. A chic little model in "Golden Cloth" showed that type of fabric to be most appropriate for children's wear. The afternoon dress in this part of the show was a new "Red Seal Zephyr" pattern which gives a woolen appearance in design, and was presented in a combination of black and white with coral. An afternoon ensemble of "Sunbrook Rayon" in orange, yellow and steel was particularly effective. A bright red check of "Red Seal Zephyr" was fashioned into an attractive morning dress. York completed its exhibit with the showing of a new cotton fabric, which, although not rubberized, is made rainproof through a special process. This "Dura-Dri Cloth" was seen in a plaid sport ensemble.

Laurice F. Moreland, Chairman of Style Show Committee, N. A. C. M.

(The Thursday morning session on Humidification follows beginning on page 139)

A GROUP OF MODELS SHOWN BY LANCASTER MILLS

Sports wear dress made of orange Lumiere exhibited at N. A. C. M. Style Show by Lancaster Mills. It is of novel orange and white check with decorative buttons and buckl to match.

A Brother and Sister outfit in homespun weave in plain green shown at N. A. C. M. Style Show. The fabric is Kalburnie, made and exhibited by the Lancaster Mills.

This dainty afternoon frock is made of Lansheer and was exhibited at the N. A. C. M. Style Show by Lancaster Mills. The fabric is of palest green crossed with decorative rayo: line.

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Collection and Publication of Data Would Enable Mills to Specify and Check Up Humidification

Committee Proposed by Speakers at Thursday Morning Session of N. A. C. M.

THE idea that a committee is needed to collect and publish valuable data and recommendations on humidifying practice was the pervading thought among the speakers at the Thursday morning session of the National Association of Cotton Manufacturers, held during its annual meeting this week at the Copley-Plaza Hotel, Boston, Mass. It was pointed out that the lack of this information makes it impossible for mills to specify the type and capacity of their humidifying equipment and prevents also their determining whether or not the operation of the equipment is satisfactory after it has been installed. The work of such a committee, it was emphasized, would be along those lines which are the very quintessence of association work; that is to say, it would supply the members with a large amount of valuable information which could otherwise be obtained only through a vast amount of duplicated effort. The aid of the builders of humidification equipment in formulating the work of the committee and in supplying data was offered by representatives of those companies.

The fact that there is existent a large amount of humidification data that simply requires to be brought together and made available to the industry was brought out by some of the speakers. Charts were presented to show how results of the work of various experimenters obtained by entirely different methods agree within practical limits. Various examples of the benefits derived from suitable humidification were presented, including statements concerning the effect of humidity on health.

The session, which was presided over by James E. Coburn, agent of the Androscoggin Mills, Lewiston, Me., was well attended, and considerable interest was evidenced in the topics discussed. In his introductory remarks, Mr. Coburn stated that his mill was one of those which have conducted careful humidity tests on their own initiative.

Consistent Humidifying Practice

Committee Should Be Established to Remedy Present Lack of Standards

IN the following paragraph, A. W. Thompson summarizes his appeal to the association for a committee on humidification standards:

"Here is a matter of unquestioned importance to your industry. You will agree that very little information upon it is available, that such as there is, is largely contradictory and comes from sources whose impartiality you have a perfect right to doubt. Isn't it about time for this association to make an endeavor to separate the wheat from the chaff, to advance the general knowledge of the subject, and to make that knowledge available to your membership. The task would be neither difficult nor expensive."

A. W. THOMPSON, vice-president of Parks-Cramer Co., proposed to the association that it establish a committee to remedy the present lack of standards in humidification practice, in order that mills may be in a better position to purchase exactly the equipment that meets their needs. This committee, he stated, should be composed of competent and impartial engineers who would collect and publish valuable data and recommendations. In his interesting paper, he outlined the various phases of this subject which call for consideration. The main part of his discussion follows:

The cotton industry is investing heavily in humidification. It needs a sound and consistent practice to remedy the lack of standards which exists at present. From 1% to 2% of the total investment in a modern cotton mill—from 60c to $1.25 per spindle—is likely to be required for humidification, so one ought to be sure that neither more nor less equipment than will supply actual needs is purchased.

Just what are those actual needs?

Specifying Equipment

Suppose you have complete machinery and construction plans for a factory in a chosen location. What you really want to know is how much water should be evaporated in each department of this mill in order to produce a selected humidity while at the same time keeping the temperature down to such levels that you can operate at good production through severe hot spells. How many manufacturers are there present who can solve such a problem and specify the evaporative capacity with any certainty that it will be satisfactory?

Suppose you have purchased an equipment which you have been promised would produce what you want. If dissatisfied, how many of you know how to prove whether the dealer who furnished the apparatus was at fault, and to what extent?

When purchasing, some of you shift your problem to the shoulders of your consulting engineer; others call in dealers and receive quotations on apparatus of widely different types; prices which may range through variations of 50%, and claims for superior performance and value which cannot possibly be reconciled—a situation which makes choice difficult and has very unpleasant elements of doubt. If you call in a single dealer in whom you have confidence and place the solution in his hands, the doubt may or may not remain.

The consulting engineers have recognized these uncertainties and several of them have devoted very close attention to this subject in recent years. That is one reason why I believe that the time has arrived when the manufacturers, engineers, and dealers should all unite in an effort to make some progress toward a consistent practice. Standardization in the ordinary sense is hardly possible, but anything which tended toward a consistent economical practice would be a real benefit to the industry and would remove some of the mystery and uncertainty which now surrounds the subject.

Art Well Developed

The time seems especially opportune for such a movement. There has been marked improvement in those types of apparatus which are in general use. Automatic regulation is here to stay. Modern installations are known to be producing excellent results. Dealers are advocating very much higher capacities than prevailed only five years ago, and manufacturers are apparently becoming convinced of the value of high capacity. In respect to high capacity, practice has probably approached very closely to the point of diminishing returns. There are many indications that the art has passed its point of most rapid development and is likely to be marked from now on by refinement in detail rather than by basic invention and radical improvements.

We all recognize that we cannot determine the proper equipment for a mill by assigning so many square feet of floor space or cubic feet of mill content to each humidifier. Evaporative capacity can only be determined by sound engineering methods, taking into full account the factory construction, the machinery layout, the extremes of heat and humidity which prevail at the factory location, and other important factors. I think it is becoming generally recognized that humidifying equipment is not mere merchandise and that the provision of proper equipment involves engineering problems of real intricacy which require expert solution.

A. W. Thompson, who spoke at Thursday morning session, N. A. C. M.

Suggests Committee

I hope you will give serious consideration to my main proposition, which is, that the members of this association could gain much by having a study made by competent and impartial engineers who could collect and publish valuable data and recommendations on humidifying practice for the general information of your membership. Before I attempt to outline what such a committee could do, let me try to indicate the importance of certain phases of the subject which need to be considered.

We should think of a humidifying system as having a definite product to deliver. Water vapor must be generated at the rate which will meet a demand for moisture which varies much more widely than your power

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load, from day to day, and even from hour to hour.

There are several important factors which affect the variation in your demand for moisture. There is the dryness and temperature of the outside air, which, as it enters your factory, must be charged with sufficient water vapor to produce your humidity and must be at the same time lowered in temperature—I speak of extremely hot weather—sufficiently to enable your operatives to perform their tasks under an atmospheric condition which will not impair their efficiency and reduce your production.

In some parts of the South, temperatures of 98° or 100° with humidities of 25% are more frequently encountered than temperatures of 90° and humidities of 40% here in New England. This discrepancy means that the New England mill only needs about three-fourths of the evaporative capacity required by a comparable mill in some parts of the South. I might add that, if we except a comparatively small number of recently equipped New England mills, we shall find very few which have even one-half of the capacity which is now prevailing in the South. Investigation would show that there is food for serious thought in the significance of this feature in Northern practice.

Rate of Ventilation

The rate of ventilation—the extent to which you keep your window transoms open—gravely affects the demand for moisture. It is wise to encourage moderate ventilation—enough to keep your humidifiers running at full capacity in hot weather so that the evaporation will produce the drop in temperature which you desire. But if you go too far in permitting ventilation in hot weather, vapor is wasted too rapidly, humidity falls and, even when you have adequate capacity, excessive ventilation makes your mill not cooler but warmer.

There is the question of heat liberated in your factory by the consumption of power and the resulting conversion of energy into heat. The temperature on your exposed roof surface under a hot sun may be 25 degrees or more above that of the outside air. Heat flows inward through your roof and side walls in consequence. There emanates from the bodies of your operatives an appreciable amount of heat, though in yarn and weaving mills this is not a major factor. You must evaporate enough water so that the latent heat absorbed by its vaporization will neutralize all of this liberated heat before you can even lower the temperature of your room to the same temperature as the air outside. You must evaporate enough more water to lower the temperature of the entering air to the point which you wish to maintain for reasonable comfort. You will see therefore how important it is to make a careful estimate of this liberated heat in order to determine how much water you must evaporate.

Lastly, and strangely enough least important so far as evaporative capacity is concerned, is the humidity which you wish to maintain, for I assure you that if you provide enough capacity to take care of the heat and produce your temperature, a difference of 5% or 10% in the humidity which you wish to create is a comparatively small factor. One of the paradoxes in practice, which is due to the outstanding importance of liberated heat, is the fact that a typical spinning room where you want only 65% humidity will require a very much greater evaporation—usually about 40%—than a typical weave room of the same size where you may want as much as 85% humidity. Even with this large difference in capacity the weave room will be several degrees cooler than the spinning room at the same outside conditions, while a spinning room requires about twice as much ventilation as a weave room.

Weather Extremes

First of all then we need definite information in regard to weather extremes. Are you prepared to pay the price for enough capacity to produce your ideal conditions on the record-breaking day which may occur only once in five years? Probably not. That would be extravagant. Enough to take care of such weather as may be expected for from five to ten days in any normal year? Yes, you should require at least that. What then is a reasonable expectancy for hot dry weather? The answer can be found by an intelligent analysis of the records of the U. S. Weather Bureau which are gathered from observation stations scattered all over the country. Some of us have made such analyses and some among you have been convinced of their importance. A study such as I have suggested should begin with such an analysis. Why not collect and publish the consensus of competent opinion for the benefit of the whole industry, indicating the proper weather extremes upon which to base humidifying capacity in all parts of the manufacturing districts.

I have stressed the importance of temperatures which conduce to reasonable comfort and satisfactory operative efficiency. Here is a subject which has already been thoroughly investigated in a very important and exhaustive research at the laboratory of the U. S. Bureau of Mines by the Research Department of the American Society of Heating & Ventilating Engineers. As far as actual research is concerned the work has already been accomplished. This data is within your reach. It only needs study, correlation and constructive recommendations for practice which, if published, would be of tremendous benefit to you all.

Humidity for Best Processing

The proper humidity for best processing in different departments and on different classes of goods is a subject on which some manufacturers may prefer to exercise their individual judgment. I imagine however that many of you would be interested in the results of a study on this subject. Here again there is much valuable data already at hand from research in which the Government has co-operated. Compiled and published I am sure you would attach considerable weight to it.

I need not touch further upon the subject of ventilation beyond remarking that it is bound up with the question of the temperature which you wish to maintain in the factory. For,

John A. Perkins, Board of Dierctors, N. A. C. M.

the closer you attempt to bring your room temperature to the outside wet-bulb temperature, the more ventilation and the more evaporation are necessary to produce the required "cooling margin"—as we call it.

The cooling margin prescribed greatly affects the required capacity and you need definite recommendations as to what are proper values for cooling margin in different departments of a factory.

Specifications and Guarantee

But I am getting into technicalities, and it would be poor taste to make a discussion on this particular subject a dry one. I therefore suggest only one more matter as a proper subject for recommendations: namely, a practical form for specifications and a suitable form of guarantee to require of a contractor when purchasing humidifying equipment.

A specification would naturally commence with the humidity to be produced and the limiting outside weather extremes adopted as a reasonable expectancy. It should state either the inside temperature to be maintained in each department or, better perhaps, a definition of the cooling margin which would be the engineering equivalent. As to the estimation of the liberated heat, that task properly falls upon either the consulting engineer or the contractor, and against that estimate and the conditions specified by the purchaser the contractor's engineers must determine the evaporative capacity required for each department. The evaporative capacity as finally determined should include a sufficient factor of safety to justify the contractor in guaranteeing it with the absolute certainty that he will be held strictly to his guarantee.

Positive proof of performance after installing an equipment is an advantage to both purchaser and contractor which scarcely requires support by argument, but the manner of establishing proof requires some consideration. In Central Station Systems the rate of ventilation is under automatic control and its rate can be determined by accurate measurement. Proof by means of observed atmospheric conditions is therefore possible and desirable in such cases.

Rate of Evaporation

In the case of distributed humidifier units operating under natural ventilation, the ventilation is not under the control of the contractor and the purchaser may fail to control it, and moreover the rate of natural ventilation cannot be positively measured. Proof of performance by atmospheric conditions alone is therefore very difficult and hardly practical. Such proof would have to await the actual occurrence of weather conditions which would approximate the specified extremes, and would also require such a nice balancing of ventilation and evaporation that conclusive proof would be extremely difficult, if not impossible. Here, however, we can fall back upon proof of the evaporative capacity, for if that has been properly determined, the system—barring such possible mechanical faults as would be obvious—is certainly capable of the required atmospheric performance.

If you are buying a pump which is quired to fill a reservoir of known dimensions in a stated time, you can ascertain the number of gallons per hour which the pump must deliver. Proof of that rate of delivery is just as conclusive as the actual filling of the reservoir. Similarly, the proved ability of the humidifier system to properly evaporate water at a stated maximum rate is the real measure and proof of its value. Such a test is also a much more simple thing to accomplish than proof by atmospheric conditions.

It would be desirable to define the proper methods for making such tests so as to provide a much needed means of protection for purchasers.

Summary

To sum up: Here is a matter of unquestioned importance to your industry. You will agree that very little information upon it is available, that such as there is is largely contradictory and comes from sources whose impartiality you have a perfect right to doubt. Isn't it about time for this association to make an endeavor to separate the wheat from the chaff, to advance the general knowledge of the subject, and to make that knowledge available to your membership?

The task would be neither difficult nor expensive. If you decide to under-

take it and place it in the hands of a few disinterested and competent men, you have a right to expect that they will have the whole-hearted co-operation and assistance of the reputable specialists in this field if there is any way in which they can be of service in such a worthy undertaking.

Human and Commercial Aspects

Humidity Problem from Viewpoints of Health and Financial Return

ONE of the two angles from which the necessity for humidification is viewed in the accompanying discussion by W. M. Trafton is indicated in the following paragraph:

"I believe that it would pay the employer to introduce humidity into his mill strictly on this account; namely, to keep the employe in better health, and consequently less susceptible to colds, influenza, pneumonia, and kindred ills of the respiratory tract."

The other angle is suggested by the following sketchy abstract:

"An agent was shown that he could add 3% or more of moisture legitimately to his product and get an increase of 1200 lbs. per week in his production. . . The introduction of humidity increased his breaking strength. . . . He is today using cotton costing 1 to 1½c a lb. less than formerly. . . A total saving of $40,000 per annum."

WILLIAM M. TRAFTON, president of the American Moistening Co., approached the subject of adequate humidification from two different angles. First, he pointed out how the health of employes should be safeguarded as a humanitarian act and as a means of increasing production and reducing labor turnover. Second, he showed how suitable humidity cuts mill costs by legitimately increasing the weight of product, permitting the use of cheaper cotton because of increased breaking strength, improving quality and feel, reducing invisible waste, and lowering the number of seconds. He said, in part:

At the outset, let it be stated that this paper is primarily for the mill man, and, it if appears from the standpoint of the technician that explanations are made regarding terms, etc., which are unnecessary, it is due to that reason.

Humanitarian Management

In a recent newspaper article, Roger W. Babson, the well-known statistician of Wellesley Hills, Mass., stated that what business needed today was more religion, and while it is not the purpose of this paper to enter into a religious discussion, I believe that most of us will agree that the Biblical injunction "Do Ye unto Others as Ye Would that They Would Do to You" has a place in and has been practiced more in the business world today than perhaps ever before. It is partly on this premise that I wish to introduce the application of humidity to the humanitarian angle of the mill employe.

Recently, in conversation with a former weaver who is now a mill owner, he reverted to the time when he was ten or twelve years old, learning his trade in England, going to the mill at six o'clock in the morning and continuing his duties for twelve or more hours. I don't like to think that the improved working conditions which this old weaver mentioned have come about solely through labor unions and the compulsion placed by them on employers and capital, but I rather like to think of them as having grown up out of the humanitarian side of mill management.

We go into mills where there is a first-aid room in charge of a competent nurse. Is this due to philanthropy or because it is forced on the employer by insurance companies or other agencies? Neither. I believe it is due to two entirely different causes: First, the desire of the employer to keep the employe in as nearly perfect physical condition as can be accomplished through this medium, and second, the natural economic desire of the employer to reduce his labor turnover by the elimination of sickness and disease.

We travel to our Southern mills, and find many of them built in isolated communities where the mill owner furnishes not only employment to the workers, but in addition, community houses, movies, recreation halls, athletic fields, as well as the dwellings in which his employes live.

Now, let us consider the first part of our subject—humidity and its relation to humanitarianism, or better still to the individual workman.

Healthful Conditions

It is a well nown fact that a temperature of from 65 deg. to 72 deg. F. with a relative humidity of from 60% to 65% is beneficial to health and at the same time well within the comfort zone, as per researches made by the American Society of Heating & Ventilating Engineers. Such temperatures are available during the fall and winter months in the average mill, by the application of heat controller, and these lowered temperatures are reflected in a further economy in the coal pile, and an increased productivity on the part of the worker.

We will admit, however, that in certain departments of the mill higher temperatures and higher humidities than these referred to are necessary. In the absence of artificial humidity at the higher temperatures, however, the effect on the worker is more injurious and is reflected in the loss of production, more than many of us realize.

Dr. W. W. Wilson, of the U. S. Weather Bureau, says this is writing about the effect of humidification on health:

"The evaporative power of the air at a relative humidity of as low as 30% is very great, and, when the tissues and delicate membranes of the respiratory tract are subjected to this drying process, a corresponding increase of work is placed upon the mucous glands to keep the membrane in proper physiological condition. Nature, in every effort to compensate for the lack of moisture in the air, is obliged to increase the functional activity of the glands, and this increase of activity and the frequent unnatural stimulation induced by the changing conditions of humidity from the moisture-laden air outside to the arid atmosphere within our buildings, finally results in an enlargement of the gland tissues, on the same principle that constant exercise increases any part of the same animal organism. Not only do the glands become enlarged, but the membrane itself becomes thickened and harsh, and sooner or later the surface is prepared for the reception of germs and disease which tend to develop under exposure to the constantly changing percentage of humidity."

Prevents Respiratory Ailments

We are all familiar with the introduction of humidity in theatres and public buildings, and more recently in hospitals and operating rooms. Physicians and laboratorians are more and more advocating the use of humidity in buildings where people are congregated to obviate the drying of the mucous membrane of the nose and throat, which when dry presents an admirable breeding place for microbes and germs.

Forget for a moment, if you will, the use of humidity as a purely production factor in your mill. Think of it in terms of the human element, which is so vital a factor in the operation of every industrial enterprise. I believe that it would pay the employer to introduce humidity into his mill strictly on this account; namely, to keep the employe in better health, and consequently less susceptible to colds, influenza, pneumonia, and kindred ills of the respiratory tract. Better general health in the mill obviously means less labor turnover and there is no doubt but that proper humidification, with constant air change, is a vastly important factor in improving healthful conditions, as against what they would be in the hot, dry and stagnant air in the ordinary mill with no proper humidifying system.

There is another consideration in connection with this subject, which we have not touched upon, and that is the air washing and the air circulation which is induced by a modern

W. M. Trafton, Who Spoke at Thursday Morning Session, N. A. C. M.

humidifying system. A large portion of the air is washed and thereby cleansed, and the air content of the room is re-circulated many times. Such conditions add to the healthful comfort of the employes, and thereby increase their productivity.

Summer Conditions

So much for the effect of humidity on the employe during the winter months. Now, let us consider the summer months and what humidity can do for both the employer and the employe during this time.

We all realize that our productivity during the summer months when the heat is oppressive is lower than it is during the fall and winter months, when we can regulate and control the heat. Therefore, anything that can be done in the mill to reduce the temperature will react not only to the comfort of the employe, but to his productivity. As we are obliged to have humidity in our manufacturing processes, it is only a step or an increase in humidifying capacity to obtain the lowered temperature referred to.

Let us take, for illustration, a weaving room, the dimensions of which are 450 x 100 x 15, which equals 675,000 cu. ft. contents. This particular room happens to be on the first floor, and we have a total of 100 windows. Assuming that we have outside weather conditions of 100 deg. F. and 25% to 30% relative humidity—by introducing approximately 2,000 lbs. of water per hour into the air in this room through a modern humidifying system, we are not only absorbing the heat generated by the 450 hp. needed to operate the machinery but we are giving the employe a working temperature of 88 deg. F. vs. the 100 deg. F.

outside. Furthermore, while he would be working under a rather excessive humidity condition, we would require only 75% to 80% relative humidity to attain this reduction in temperature of 12 deg. under the outside temperature. Not only would the workman be more comfortable because of the lowered temperature, but due to the fairly rapid air change in the room, the sensible temperature would make for more comfortable working conditions.

We have told you above what can be accomplished in reducing the temperature in a mill by evaporation, and we wish to make a prediction that within the next few years, the mills and even the better homes will have a humidifying system, in connection with refrigerating and heating units, which will supply the desired humidity and heat in the winter time and a low humidity with a comfortable and livable temperature in the summertime, irrespective of the outside temperature.

Commercialism

We now take up the second part of our subject—humidity and its relation to commercialism.

This subject has been considered and debated so many times from the standpoint of the mill man that it would seem that nothing more could be added to what has already been said and published on this subject, but while we all know the effect of humidity on the breaking strength and the elimination of static electricity in the manufacture of cotton yarns, I believe (and this belief is further substantiated in talks with mill men) that there are several phases in connection with the application of humidity which are not realized by the management of some of our mills.

All of the mills, in the North especially, are endeavoring to cut the cost of their production to the minimum, and here is the way that one mill cut cost after introducing an adequate humidifying system: This mill was manufacturing cords and twines which sold at an average price of 30c per pound, their output being 40,000 lbs. per week—or, in dollars, $12,000. They had never had humidity, and the agent of the mill stated that if it could be shown him whereby a humidifying system would be a profitable investment, he would install it.

It did not take an engineer long to ascertain that he was shipping out his twine with an average regain of only 4% in moisture. When the agent was shown that he could add 3% or more of moisture legitimately to his product, or get an increase of 1200 lbs. per week in his production at 30c a pound without using any more cotton, thereby making an additional profit of $360 a week—or a gain of over $18,000 a year—that settled the question in his mind, and he is now using humidity, as he puts it, "with a great deal of success."

Permits Cheaper Cotton

This man, however, awoke to the fact that the introduction of humidity had greatly increased his breaking strength, and, as he put it, "my cords and twines were strong enough before introducing humidity; therefore, under these circumstances why should I not use a cheaper grade of cotton in the manufacture of my product?" The outcome of it was that he experimented and is today using cotton which is costing him between 1c to 1½c a pound less than his former grade. Therefore, he is saving $18,000 to $20,000 a year because of his moisture regain; conservatively, 1c a pound or over $20,000 a year on his cotton—a total saving of about $40,000 per annum, and all because he installed a humidifying system which showed him a profit on his investment of 700% to 800% per annum.

Another case is a yarn mill, where they made a comparatively cheap grade of yarn which they used in the manufacture of lace curtains. Their results under humidity were not as great as the cord manufacturer; but, in addition to an increased regain which they obtained, they now mix a bale of cotton such as they formerly used with a bale of a shorter staple and lower priced cotton, which gives them a saving of 1c a lb.

Humidity for Cloth Room

There is another place in the mill where I find that many mills in the North are loath to install a humidifying equipment, whereas the southern mills install it without a question. I refer to the cloth room.

As you all well know, the buyers are becoming more and more insistent on the weight of the goods received by them. In a particular case that I have in mind a buyer has been arguing with the mill on this very point. The argument, however, was settled to the satisfaction of both buyer and seller by the introduction of a humidifying system in the cloth room and, curiously, to the material financial advantage of the mill. Here is how it worked out: The material which the mill sent out previously with a comparatively low moisture content was benefited by the humidity not only as to increased weight, but the "feel" of the goods was so much better that the buyer thought that the mill had changed some of their processes in the manufacture of the cloth. While the difference in "feel" was due entirely to humidity, I happen to know that this particular mill has not tried to disillusion the buyer as to his idea that the mill had changed the manufacturing process.

Buying and Selling Water

There has been much discussion and argument over the question of selling water in place of cotton. Naturally, no self-respecting manufacturer expects, or even wants, to do this, but on the other hand when a mill buys cotton with a moisture content of from 7% to 8% and its manufactured product goes onto the market with a less percentage of moisture and is also sold by weight, that mill is simply giving away a profit that legitimately belongs to it, as the mill actually bought water and replaced it with cotton. We have known of mills in the past where the difference in the moisture content between the cotton purchased and the product sold constituted the difference between actual profit and loss on the mill's operation.

I have not touched on the additional saving which can be made by the installation of humidification, by reducing to a minimum the invisible loss, or fly, in the various preparatory or intermediate processes of manufacturing cotton goods.

There is, however, another mill loss, which is the "bugaboo" of every agent and superintendent. I refer to seconds. In conversation with a mill superintendent in the South, who formerly had a very inadequate humidifying system—which, however, was finally modernized—he made the statement that he had cut his seconds in half since his up-to-date humidifying system had been in operation. I was reticent as to asking him the percentage of his seconds formerly, as I find that mill men are not particularly anxious to discuss this phase of the situation.

Status of Textile Regain Data

Established Curves—Allowing for Fiber Mix—Effect of High Speed

A. E. STACEY, JR., of the Carrier Engineering Corp., presented some interesting charts comparing the data of prominent experimenters, indicating the effect of bleaching and mercerizing, and showing how regain and humidity affect the strength and elasticity of various fibers. He pointed out that new problems have been presented to the humidification engineer by the introduction of rayon in mixture with natural fibers and by the tendency of increasing the speeds of machinery. His remarks follow:

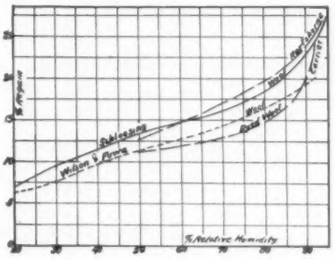


Fig. 1. Wool Regain

Regain of materials used in the manufacture of textiles and its relationship to the physical characteristics of the materials is assuming a special interest in this day of new ventures in the mixtures of textile materials. An immense amount of excellent research has been done in the investigation of the regain properties of cotton, wool, silk and other natural fibers, both in this country and abroad. The work of Hartshorne, Wilson and Fuwa in this country, and of Schloesing and Wilkomm on the continent, is familiar to all of you. The work of Wilkomm on the relationship between the physical properties of textiles and the relative humidity is of great importance to every mill man. Unfortunately, this work has not received much publicity in this country. These data have been plotted for ready reference, so that, when working mixtures, the proper relative humidity giving the best results may be selected.

Data Compared

Since the physical condition of the material varies according to the regain or the moisture in the material, a comparison of the data on regain should be of interest. When it is considered that most textile materials are natural products, produced under many varying conditions, it is surprising that the results are so uniform. From the practical stand-

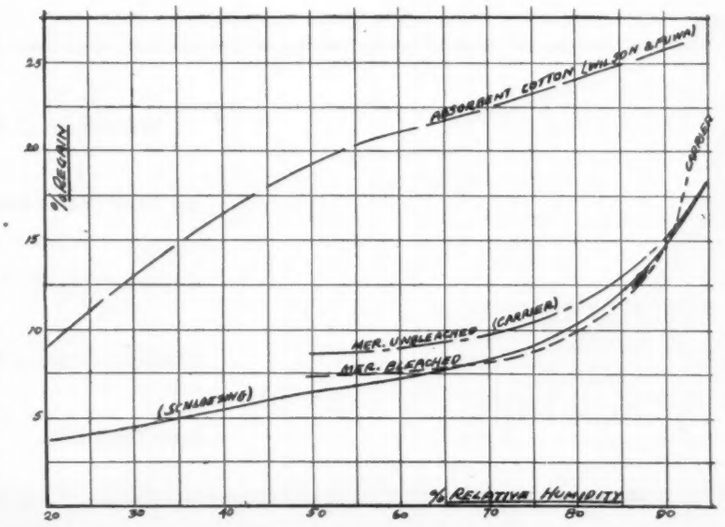
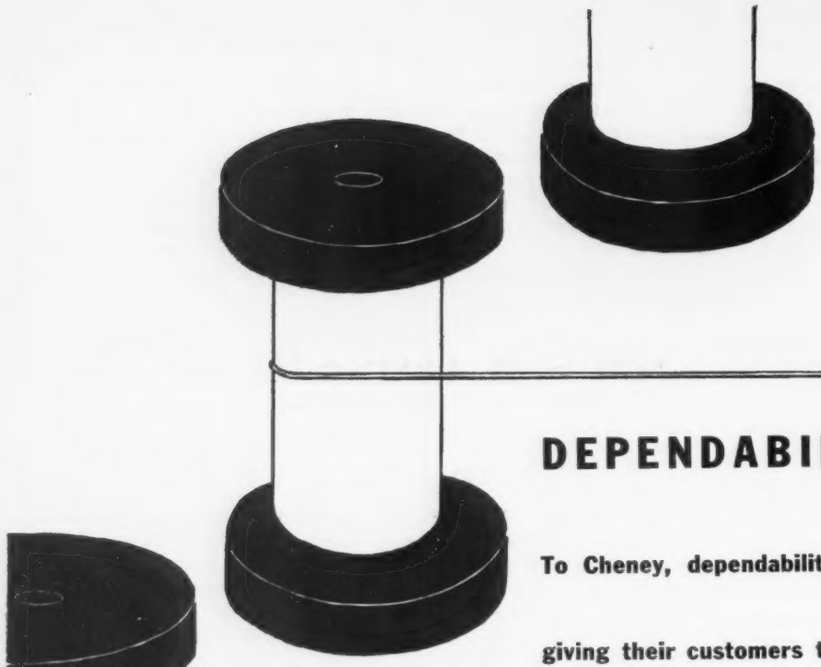


Fig. 2. Cotton Regain



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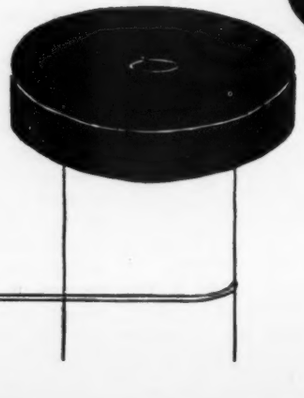

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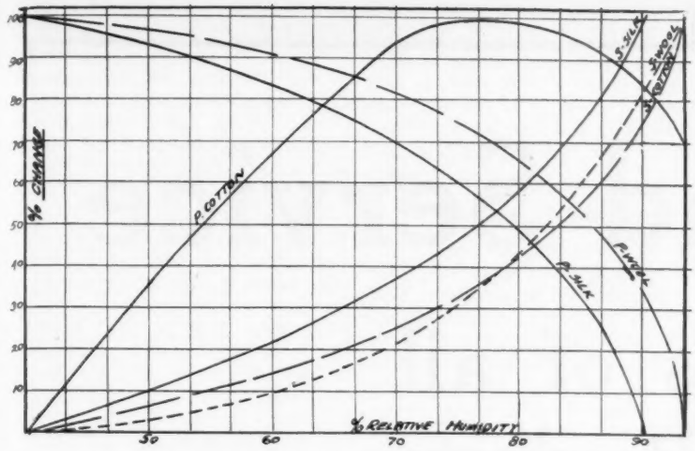

Fig. 3. Strength and Elasticity with Relative Humidity

point of the mill man, the regain curves are of value between relative humidities of 50% and 85%, and in the majority of cases, 75% R. H. would be the upper limit.

Fig. 1 gives the regain data of Hartshorne, Wilson-and-Fuwa, Schloesing, and the Carrier Engineering Corporation laboratories. While each experimenter had an entirely different method of procedure, and materials were produced under varying conditions, it is most gratifying to note that the results agree within practical limits. The results obtained by the writer vary somewhat from the others under high conditions of relative humidity. He believes this might be due to the fact that the material was exposed to a continuous and rapid circulation of the conditioned air. These results are characteristic of many materials tested during a period of eight years.

The regain curve for rayon has been repeated again and again with material manufactured in different plants. Very little difference in regain was noted for rayon of the same type. As pointed out by Wilson and Fuwa, the regain curve of rayon is almost identical with that of silk.

Mercerization Without Effect

It might be expected that cotton, after being mercerized, would have a different regain than the natural fiber. This, however, is not the case, as shown in Fig. 2. There is, however, a slight variation between the bleached and the unbleached fiber.

In the work of Wilkomm, the very interesting and valuable relationship between the relative humidity, elasticity, and breaking strength is shown. Fig. 3 gives the relationship graphically for cotton, wool and silk, "P" in this case being the percentage breaking strength and "S" the percentage elasticity. It should be noted that silk and wool have the same characteristic curves and increase in strength as the relative humidity decreases, while cotton is relatively weak at low humidities, increasing in strength with a rising relative humidity, and reaching a maximum at approximately 75%. From here on the strength falls off. This is similar to the phenomena noted in the testing of paper, although the maximum strength in this case is at another point.

Fig. 4 shows the relationship between regain and the strength and elasticity, the strength and elasticity being given on a percentage basis for purposes of comparison. It is interesting to note that in all three cases the elasticity is affected at the same rate for variations in humidity. It is to be regretted that this work does not include rayon.

Humidity for Rayon

From the results of some tests on rayon to determine the effect of relative humidity on its stretch, it appears that there is a sudden diminution of resistance to stretch at 62% humidity. This, then, would mark the upper limit of relative humidity at which rayon can be successfully prepared for fabrication. Our investigations also indicate that the fabrication of materials containing rayon as a mixture should be conducted at humidities lower than those ordinarily maintained in mills handling only natural textile fibers.

To all textile manufacturers whose product is sold by weight, regain is of utmost importance, both from the manufacturing standpoint and also from the standpoint of profit.

Definite standards of relative humidities for the different departments of the mill have been set. These are, no doubt, based on long experience of successful operation under these conditions. In the last few years, however, there has been a decided tendency to speed up all operations, with a resultant increase in horsepower for driving the machines. Where work is being done on the fibers, there is an equivalent amount of heat being added to the fibers; and, as the rate of work is increased, the heat in the fibers is increased. This heat is carried away by the air in contact with the fibers. Its temperature is increased and its relative humidity lowered.

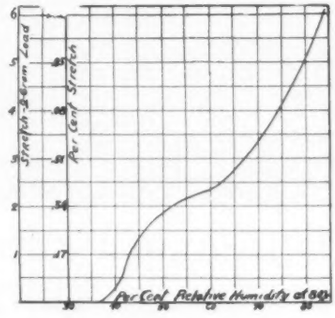

Fig. 5. 150-Denier Rayon Yarn

High-Speed Data Needed

Through this effect the regain of the fibers corresponds to a lower relative humidity than that of the atmosphere of the room. The proper regain in the fibers, and the corresponding relative humidities to be maintained were, no doubt, correctly established for the old operating conditions, but little work has been done to determine the "spread" between the normal regain point and that actually obtained in practice, under more recent high-speed operation.

In some cases the writer has found this "spread" to be over a 5% relative humidity, so it was necessary to carry a relative humidity 5% higher in the room than that corresponding to normal regain of the fiber. In this day of high overhead and labor charges, everything should be done to assist in a maximum production from the mill. From the study of the above problem, it would seem that good results might be obtained along these lines.

Conclusion:

1st—The regain curves of textiles are established within practical limits.

2nd—The advent of rayon, as a mixture with natural fibers, has introduced new problems in the manufacture of textile materials, from a humidifying standpoint.

3rd—The increased speeds of production have indicated the necessity of new investigation of standard conditions of relative humidity to be maintained in the several departments of the mill.

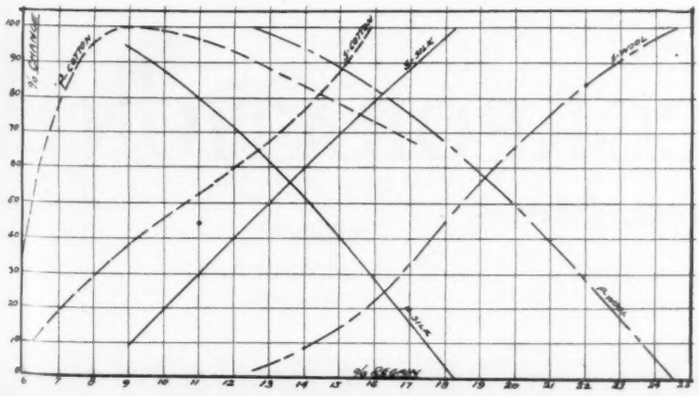

Fig 4. Strength and Elasticity with Regain

(Photo Blank & Stoller)

A. E. Stacey, Jr., who spoke at Thursday morning session, N. A. C. M.

Mills Unable to Specify Capacity

Humidity Data Should Be Available as Basis for Bidders

THE proposal made by A. W. Thompson that a committee be established to study, collect, and publish valuable data and recommendations on humidifying practice was heartily endorsed by F. M. Gunby of Chas. T. Main, Inc. Mr. Gunby contributed the following discussion of Mr. Thompson's paper:

Mr. Thompson's paper has been most interesting to me. It is the only one of those to be presented today which I have seen, so I will ask the pardon of any other authors if, in these remarks, I refer only to that paper.

Moisture Allowed

Mr. Thompson states that the humidification system represents from 1% to 2% of the total investment in a modern cotton mill. I like to think of it in another way.

The amount of moisture allowed, and expected, in commercial practice in the finished goods is that corresponding to a regain of from 6½% to 8½% in this country. This means that your customers are entitled to

Quality and Service

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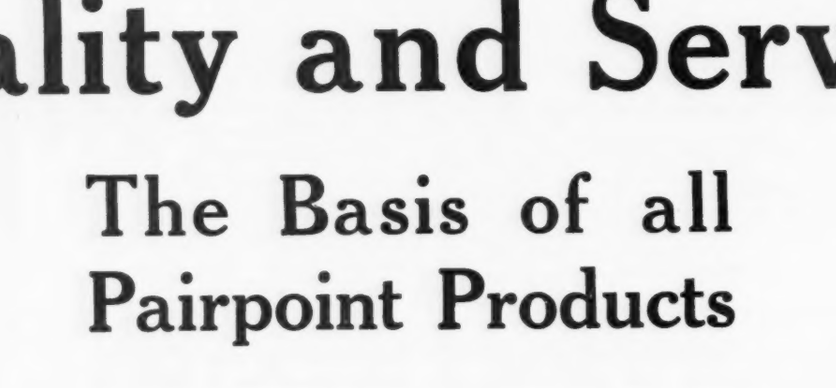

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about 93% of cotton and 7% of moisture in the goods you ship them. If your goods contain less moisture than this, you will probably have to put in more cotton, or more goods, to make up the weight.

Even in mills without artificial humidification, the goods would not be "bone dry," but would contain some moisture; but in such mills the difference between the moisture which they do contain and that which they should contain will represent a substantial portion of the total moisture permitted. In a mill with good humidification, the waste of stock will be less than in a mill lacking in humidification. If the increase in weight of the product of a mill due to good humidification were 3% or 4%, there would be that much more product to sell, and the increased income from it would be equivalent to a major part of the amount spent for power in an ordinary mill; or it would be equivalent to something like half of the dividends which many mills would be glad to make on their capital.

The power systems in mills have received a great deal more attention than the humidifying systems, yet, from the standpoint of cost of the finished product, the two problems are of nearly the same magnitude.

I believe that it is a safe assumption that many mills, particularly in New England, are suffering a handicap due to the lack of sufficient humidification.

Lack of Standards

One of the most difficult things to purchase for a mill on a fair and intelligent basis is the humidification system. This is due to the lack of accepted standards as to the conditions under which results are to be accomplished, and as to the results desired. It is easy to say we wish to maintain a certain relative humidity in each given room, but from that point on the problem becomes complicated by the following factors:

(a) The outside atmospheric conditions and the extremes to be expected, and the frequency with which these extremes may occur. (This is affected by geographic location as it affects weather conditions, temperatures, natural humidity, etc.)

(b) The amount of heat to be compensated for, due to power used, and the heat from other sources, such as sun, heating system, operatives, etc.

(c) The amount of cooling which the humidifying system is to do in addition to merely producing the humidity in order to limit the room temperature to insure reasonable comfort to the operatives.

(d) The humidity which it is desired to maintain in the various departments and the uniformity of its distribution.

(e) The design of the mill, window openings and their control, the locality, sweep of wind, etc., as they affect ventilation.

(f) The automatic control of the humidity so as to maintain uniform results under the widely varying conditions both inside and outside the mill.

There is data available for the solution of these problems, but it is not generally available, and systems are sometimes put in on a more or less "hit or miss" principle, with resultant dissatisfaction.

Evaporative Capacity

We have seen bids which varied in total price by 50% which, when carefully analyzed, showed that, on the manufacturer's guarantees of evaporative capacity, the price per gallon of capacity per hour were all about the same, and that when the evaporative capacities were figured on the basis of such tests as were available on installations actually operating in mills, the highest bidder had the lowest price per gallon of capacity.

After all, the principal things which we buy from the humidifier manufacturer are the evaporative capacity of his system in gallons per hour, his control system, his service system, and his engineering skill in solving the various problems in the design and installation of the system to accomplish the desired results.

It is a fairly simple matter to make tests of the evaporative capacity of a system soon after it has been installed to show whether or not the guarantees in this respect have been fulfilled. Such tests give a good guide as to the acceptability of a system, especially when the contract for the system has been made with such a test in mind.

Should Know How to Specify

The owner, or his consulting engineer, should be able to specify the capacity required for the system, or the data from which this can be readily determined by all the bidders, so that all will bid on the same evaporative capacity.

One of the tasks which this would involve would be a study of the weather bureau data with reference to the locality involved. The work of doing this would be considerable, and it would be a good thing if this study for the whole cotton manufacturing territory could be made by the committee which Mr. Thompson has suggested, so that the results of its work would be available for the whole industry. The results could be put into map form, which could be easily used.

I wish to heartily endorse Mr. Thompson's suggestion that this Association appoint a committee to study this subject and to formulate such standards of practice and results to be expected as may appear to be desirable. The various national engineering societies, and the National Electric Light Association, etc., have committees studying a wide variety of subjects, and the results of their work have been most beneficial. These committees are generally composed of men representing all the important points of view of the subject in hand. This practice might be a good one for our association to follow in this case.

Need for Humidity Committee

Engineer Approves of Proposal that Important Data Should Be Collected

AFTER praising the clearness and value of Mr. Thompson's paper, "Consistent Humidifying Practice," Chas. M. Mumford, engineer with Lockwood, Greene & Co., Inc., contributed the following discussion of the various points brought out:

Favors Committee

As Mr. Thompson states, there is ample information available regarding the subject, and also very complete reports of weather conditions that can be expected in the different parts of the country. All of this material, however, is now scattered, and I feel that a committee appointed by your association, and composed of practical mill men, engineers, and representatives of the recognized humidifier companies, could easily collect and publish this data in such a way that it would be of great benefit, not only to the manufacturer but also to the humidifier companies, and to the engineers who may be called on to specify or check up on a system. This committee would act as a "clearing house" for all data on this subject.

In the purchasing and installing of a humidifier system the mill owner is entitled to know just what he has a right to expect in the results that will be obtained, provided of course he has given accurate data as to just what he wishes in the way of atmospheric conditions in his several departments.

In the first place he should realize that with a proper installation, he can not only obtain a certain "relative humidity," but that he can also have proper "ventilation" in the room, and a certain amount of "cooling effect" which is bound to result by the evaporation of water into the air. All of these things are necessary in a plant in order to get from it the highest efficiency; the "relative humidity" to make the work run well; the "ventilation" to safeguard the health of the operators and to improve the general working conditions; and the "cooling effect" to keep the mill in operation during the few excessive hot days of the year.

Charles M. Mumford, who spoke at Thursday morning session, N. A. C. M.

To obtain all of the above we must make a much more detailed specification, when asking for bids on apparatus, than simply stating the "relative humidity" desired, which has been the general practice up to very recently. Suggestions for such specifications are given in the paper of both Mr. Thompson and Mr. Gunby.

Central and Head Systems

The central station system combines all of these benefits and gives as near ideal conditions as can be expected. It, however, is expensive to install, and also to operate, and is not adapted to all plants. To install one in a new plant is much simpler than in an old one, and the flue work can be designed with the building and thus much of it kept out of sight, whereas in an old plant it has to be erected in the rooms, and on account of the very large amounts of air that have to be handled the flues are very large and take up a vast amount of space and are more or less unsightly.

I believe, however, that it is possible to install a "head" system which will give results nearly as good as those from the central system, provided the same methods are used in figuring it. The only real difference between the two will be the method of "ventilation" or "air change." This is all taken care of automatically by blowers in the central plant, while in the head system it will have to be done by opening and closing the windows in the walls of the mill, which will probably have to be done manually.

I believe also that automatic control of the heads is an absolute necessity provided you expect to maintain an even relative humidity. These should be properly placed, in the several rooms, so as to be sure that they are operated by atmosphere that is a fair sample of the general conditions existing throughout the room.

The question of ventilation can easily be answered by watching the workings of these controls. If it is noticed that the heads are in operation continually, then you have too much ventilation and some opening should be closed. If, however, it is found that the heads are shut off much of the time, then more air should be let in. In other words, the amount of fresh air should be so controlled as to require the "automatic" to operate occasionally.

Relative Humidity Wanted

There will always be a diversified opinion in regard to relative humidity, as each manufacturer has his own

ideas of the amounts wanted, and I doubt if there can ever be a schedule made that will be favored by all. There is, however, no objection to this, as I firmly believe that the question of an even humidity is greater than the question of a high or low relative humidity. If it is always the same, day in and day out throughout the year, you will do away entirely with the necessity of making gear changes in draft, twist or tension, and thereby not only save time and increase efficiency, but also eliminate the mistakes that sometimes occur on account of using the wrong gear combination.

If a system is installed with the idea of obtaining the best results possible, it will of course, cost more than one installed under the general practice of today. You will obtain, however, a greater amount of equipment, and at the same time, working conditions that will be entirely different, and which should give you an increase in your yearly production.

The contract should carry guarantees, and tests of the system should be made to see if these guarantees are being met. To make such tests some unit of capacity must be accepted. As the size of the system will depend on the amount of evaporation required, the unit of gallons, or pounds of water, per hour required, seems to be the logical unit to use. Nearly all systems, now in existence, can readily be tested for this capacity, and from such tests the capacity of individual heads can be obtained. These capacity tests should be made under regular working conditions, and all laboratory tests eliminated, as they do not give the correct answer.

I hope something can be done along the lines outlined in these papers and that the manufacturers, engineers, and humidifier companies will co-operate so as to have an unquestioned data book on humidity practice that will be of service to all.

Mills Lack Knowledge of Humidity

Should Be Able to Specify Equipment and Conduct Acceptance Tests

THE need for available data on humidification was emphasized by Richard G. Knowland, chemical engineer, Boston, Mass., in his discussion of the three papers read at the Thursday morning session. He pointed out that it is illogical for mills to purchase anything so important as humidifying equipment without a knowledge of how to request what they need or to know when they have obtained it. His remarks follow, in part:

The advantages gained by suitable humidification are by no means intangible, but are perfectly definite. By way of illustration one instance might be quoted where, by the use of suitable humidification and slashing, weave-room production was raised from under 90% to over 96%. In another case a spinning room that was inoperable at from 50 to 55% by relative humidity showed a decrease in ends down to about 30% of their original number on raising the humidity to from 65 to 70%. In still another case it became possible to double the number of looms operated per weaver when the relative humidity had been increased a matter of about 10%.

Mills Lack Knowledge

Such instances as these, which may be quoted almost without end by persons experienced in humidification, indicate the extreme importance of suitable humidifying methods and apparatus. In view of the importance of textile-mill humidification, it becomes of interest to consider what the textile industry has done to make sure that it obtains the beneficial results which humidity can be made to furnish. To be entirely honest it must be said that the textile industry has contributed practically nothing to our knowledge of the art of humidification. The mills are now in the position of asking the manufacturers of humidifying equipment to tell them how much humidification they need, what type of apparatus to use, how it shall be installed, how operated and cared for.

In addition, for the most part textile mills leave it to the makers of such equipment even to provide acceptance tests and to conduct such tests themselves. Thus we are in the anomalous position of asking the makers of humidifying equipment to tell us what we need and, after they have supplied the equipment, to tell us whether it is suitable for the purpose. On their "say so" the common practice is then to write the final check making full payment for the apparatus. It is my belief that any of these gentlemen who have spoken today will confirm this picture of the situation. It is not a logical state of affairs.

Indorses Committee

Mr. Thompson has suggested the formation of a committee whose functions would include a study of the general situation as regards humidity in textile mills. They would work out thoroughly the humidity conditions required to meet various needs, and they would develop specifications which, if followed, would insure a mill's buying exactly what would be best for its purpose. Acceptance tests to determine the performance of such equipment would also be prescribed, and the manner and limits of their conductance would be defined.

Since work of this sort seems imperative in view of the importance of textile humidification, let us discuss briefly some of the points involved, many of which have already been mentioned.

Types of Systems

In the first place, there now exists two distinct types of humidification systems, the "central station" type and the "head" type. At the present time there is no data available to anyone which properly and fully defines the fields in which these two systems should be utilized. There are, furthermore, two distinct types of "head" systems, and there now exists no well-formed opinion as to where one or the other of these should be employed.

In addition to this, two manufacturers are introducing this fall still a third type of humidification equipment known as the "unit" system. It

(*Photo Bachrach*)

Richard Knowland, who spoke at Thursday morning session, N. A. C. M.

is my personal belief that under many conditions the unit system will prove desirable. If so, the functions and peculiar advantages of the "unit" system should be defined in such a way that textile manufacturers may know when to use it.

Humidity Requirements

As pointed out by the speakers, there are many problems involved in the specification of humidifying equipment. Among these problems are the determination of the proper relative humidity to employ in each department of the mill. Such proper humidities vary from mill to mill, since, for example, a spinning room humidity of 75% which might be requisite in one mill would be disastrous in another where the processes and the cotton employed might work far better at 60 to 65% relative humidity.

At the same time allowances must be made for the cooling effect which is desired. Thus, one mill may be willing to run its spinning room at 90 deg. F. when the outdoor temperaaure is 95 deg., whereas the workers in another mill might begin to complain if the temperature were over 84 or 85 deg. It must also be remembered that there are very definite limits as to room temperature and relative humidity which if exceeded result in languor on the part of the employes, and in the slowing down of their work. Such limiting conditions are now fairly well established.

The fact that the heat evolved by the machinery in the room, the dimensions of the room, and the outdoor conditions, as well as the opening of the windows, exert a controlling effect on the necessary evaporative capacity of a humidifying system mean that the problem of specifying suitable humidifying equipment is a complicated engineering matter.

Association Should Act

Because of the great importance of humidifying equipment, and of the relatively difficult engineering features involved, and in view of the present complete lack of uniform methods of specification, and for the determination of humidifying capacity, I believe most strongly that this association should take steps along the lines mentioned by Mr. Thompson to define clearly methods of specification, and of acceptance tests for humidifying equipment. By so doing the mills will place themselves in a position to know what they will require, and to see that they have obtained it; which position is something that they cannot now assume.

The various speakers have shown you that the information necessary for proceeding along these lines has already very largely been gathered. This being so, it appears illogical in the extreme for us to continue to purchase so important an adjunct to manufacturing as humidifying equipment without having in the hands of the mills either a knowledge of how to request what they need, or to know when they have obtained it.

Discussion on Humidifying

DISCUSSION following the Thursday morning papers was as follows:

SIDNEY S. PAINE.—I would like to ask if any studies have been made of the quality of the water that comes out of the humidifier? I have noticed that in mills having hard water it is impossible to get the end breakage down low. There is the question of whether a modification of the water is desirous or whether a different capacity for different classes of water would give the same results.

MR. THOMPSON.—I don't yet know of any genuine research on that subject. I have known of peculiar questions arising that apparently were only traceable to difficulties of the water supply, but I am at a loss for any specific information on that subject.

MR. KNOWLAND.—It would be rather hard to determine how much

effect the quality of the water would have. If you had a large weave room, for example, using perhaps 4,000 lbs. of water per hour, that would have, if the water sprayed into it were quite hard, possibly 50 parts per 100,000 of hard materials. That would mean that out of that 4,000 lbs. of water you would have a very minute quantity of hard matter suspended in the air, and due to the circulation of the air it would be almost impossible, I think, to determine just how much effect you would gain from the presence of that hard material. Some of the very worst waters are not likely to run more than 200 parts of hard material, and due to those minute quantities it would be extremely difficult, in view of the circulation, to find out just what the effect would be.

MR. BURTON.—My own experiences teach me that if you have too much breakage you had better put in a little better cotton.

CHAIRMAN COBURN.—I wonder how many of our mill treasurers present would say "Amen" to that.

MR. TRAFTON.—In answering that question, what I am about to say is all hearsay, but I heard about a mill that put in a humidifying system and afterwards installed a water softener and claimed that it did make some difference in the conditions in the mill.

MR. MARBLE.—I received a very peculiar report. I had installed a new system at a mill, and the board of health found 100 cases within a week of intestinal trouble. The records for 40 weeks previous had shown only four cases. The water for the humidifying system had been pumped slowly from an artificial well into an open pool and from there passed into the humidifying system. The board of health refused to permit them to use that humidifying system in that way.

MR. THOMPSON.—It seems to me that it would be a matter of common sense under practical conditions to look for a supply of uncontaminated water. Water used in a humidifying system which is hard or which contains impure matter of any kind, is a detriment to the humidifying system, if nothing else, and results in lowered capacity and efficiency in the long run. That the water supply should be as pure from the sanitary standpoint as possible requires no argument.

CHAIRMAN COBURN.—In other words, you believe, the water should be filtered?

MR. THOMPSON.—Filtered, if there is no available supply that needs no filtering. Of course, in the North we are generally favored with excellent sources of supply. In the South there are often conditions where the water is hard and difficult to handle and where filtration is an absolute necessity, but I have heard of very few cases where the unsanitary condition of water gave trouble.

MR. STACEY.—I rather imagine this discussion is on the head system where you are spraying directly into the room, but I have made a great many tests at different times of water in the humidifiers of the other type, that is, the central station type. Once I took three dishes and placed them at the inlet and also at the discharge from the humidifier. In one case the apparatus was situated in a district where a great deal of dust was thrown off from different manufacuring plants. There was also a railroad that ran right close to the fresh air intake. The water in the tank at the time I made these tests had been there for four days. The top of the water was

James E. Coburn, Chairman of Thursday Morning Session, N. A. C. M.

covered with scum. These three dishes had a gross of some 44 colonies in 24 hours. Those were exposed either two or three minutes and a plate was exposed for five minutes. No colonies appeared after 48 hours of incubation. This is not unusual for removal of bacteria from the air in apparatus of this type. In other words, it seems to stay in the water, so that I do not think that, no matter what type of water you use in central station work, there would be any ill effects on the health of people who were served by the air from that apparatus.

MR. THOMPSON.—Mr. Chairman, I think there is absolutely no doubt, as Mr. Stacey says, that a central station system is the best possible means of eliminating any such impurities, because the product of a central station is the addition of pure water vapor to the air, the head system releases spray which is evaporated after it enters the room. If there are mechanical impurities in the water when it leaves the head as sprayed, those will separate and be precipitated. I have never been able to learn of any evidence that harmful bacteria could be delivered in that way. Of course, in the case of the spray type of humidifier in which the spray is generated inside the casing, the unfiltered water is drained away and carried back to the filter system. There is a strong tendency there to result in the mechanical removal of a large part of the impurities, which the filter will have a chance to remove from the system. But what happens to that part which is so minute that it can pass out with the spray is a problem that would be pretty hard to solve. It would depend on the circumstances and would require some investigation.

Further Development of Cotton Manufacturing Discussed at Thursday Afternoon Session

Importance of Replacing Opinions With Facts and Improving Physical Condition of Plants

MANUFACTURING efficiency, as a result of improving plant equipment and methods, was the chief topic at the Thursday afternoon technical session of the National Association of Cotton Manufacturers' Convention. Gordon Harrower, assistant treasurer of the Wauregan Co., Wauregan, Conn., presided.

The papers presented at this session were by men who have made first hand studies of plant conditions, have sat in at various consultations to determine the causes of failure of mills, and have formulated plans for turning deficits into profits. The speakers showed what actually is being accomplished in replacing older methods with new and better methods. They emphasized that the industry is not static, and the present methods and equipment are only a step to a still higher development of cotton manufacturing.

The speakers on the program were J. M. Barnes, president of the Barnes Textile Service Co., whose address was entitled "Notes from the Day's Work"; Sidney S. Paine, president of the Textile Development Co., who took as his subject "Logical Progress"; and the discussion of the topics brought out in the meeting by E. Dean Walen, assistant agent of the Pacific Mills. At the conclusion of Mr. Walen's remarks the meeting was thrown open for a general discussion of the subjects developed by the various speakers, and only the necessity of opening the business session which followed on the program, prevented the interchange of ideas from extending long past the time allotted to it.

A report of the discussion will be found on pages following the remarks of Messrs. Barnes and Paine:

Notes from the Day's Work

Problems of Cotton Manufacturers in Making Operations Show a Profit

JOEL M. BARNES president of Barnes Textile Service Co., Boston, reviewed the progress that has been made along lines of cost reduction since he addressed the National Association three years ago, and then discussed raw materials and the physical conditions of plant equipment. He showed how dependent one department is upon another for satisfactory operation and labor extension. In concluding the speaker touched upon the problem of excessive productive capacity, overtime operation, style changes, fluctuating raw material prices, and faulty selling methods. Mr. Barnes' remarks follow in part:

It can be fairly stated that practically no revolutionary changes in the methods of producing textile fabrics have been brought about in recent years. Progress has been made largely in the refinement and improvement of existing processes and methods. Generally speaking, labor economies have been secured in the following ways:

(1) Reduction of idleness on the part of operatives, resulting in larger jobs. This method is worked out along arbitrary lines on the principle of a day's work for a day's pay.

(2) Classification of the duties of operatives as skilled and unskilled, with revision of jobs and earnings in accordance with the degree of skill required.

(3) Improvements in the running of the work, so that the time per operative per machine is decreased. This permits the skilled worker to tend more machines with less arduous effort than formerly was required.

The largest payroll savings accom-

plished have been effected through the complete coordination of the three ways given above.

It may be of interest to discuss some of these changes which we find have had a measurable influence on the cost of production. Anyone who attempts to stretch out jobs on speeders, spinning frames, twisters, warpers, and looms may find his hopes blasted by the poor running of the work. It does not necessarily follow that because your neighbor is producing a certain yarn or fabric from cotton of a specified grade and staple, you can do likewise, with the same size jobs per operative. The physical and operating condition of the machinery may prove to be the principal limiting factor.

Selection of Cotton

By the term "selection of cotton" we do not mean that every mill should use nothing but strict good middling, because we know that Mother Nature cannot possibly provide a whole crop of that desired perfection. It can be proven, however, that selection of the proper cotton for a mill's requirements has a marked effect on the running qualities through the various mill processes. If every department head is informed in advance as to the character of mixes he will receive, his settings can be adjusted accordingly, and much grief avoided throughout the mill.

Opening and Picking Equipment

On account of the introduction of mechanical means of harvesting cotton, the raw material is coming to the mill with a much higher percentage of trash and dirt than we usually find in hand picked cotton. There is not much doubt that in a comparatively short time practically all cotton will arrive in this condition. It, therefore, often becomes necessary to revamp completely the opening and picking equipment in order to eliminate the highest possible amount of this leaf and trash before the stock reaches the cards and subsequent processes. Good picking means machinery that will thoroughly open, bloom, clean, and produce laps of uniform density throughout their entire length.

One instance where the opening and picking departments were overhauled may be cited to illustrate the point. The breaking strength of the resultant yarn was increased 15% and the ends down in the spinning room decreased 25%.

Card Settings and Upkeep

If large spinning and weaving jobs are to be established and maintained, it is also necessary to have the cards well clothed and ground, and the settings carefully followed up. If any dirt and waste which should have been removed in the opening, picking, and carding processes, is allowed to go through with the stock, it will have a decided effect on the ends down in the spinning room, and the warp and filling breaks in the loom. It is, therefore, essential that the product be started through the mill correctly. The difference in card room costs on good and bad machinery may be comparatively slight, but the spinning and weaving results under the two conditions are sometimes almost unbelievable.

The present trend of thought along this line has undoubtedly been hastened by the development of longer drafts in the spinning room, which are primarily dependent on careful preparation of roving. This development parallels the history of the automatic loom, which slowly but surely taught the industry the necessity of proper yarn preparation and good slashing in order to secure the fullest advantage from this invention.

Drawing Frames and Speeders

The important factors to consider on drawing frames are the condition of the rolls and the speed at which frames are run. True and well fluted rolls run at low speeds will produce more and better work than many mills now secure at much higher speeds.

Today, countless speeders are running in a condition which may let the boss carder get by with the use of that famous cure-all, an extra tooth of twist or two, but the roving produced makes a sorry beginning for extended jobs in the spinning room.

Spinning

Good spinning is dependent not only on the quality of roving furnished, but on the use of the proper type and gauge frame, correct settings and speeds, and travellers of the right weight. Good running spinning should be judged by the number of ends that break down. Every piecing means increased waste, lost production, poor quality, and higher labor cost. The number of ends which a good spinner can piece up per hour is a fairly definite quantity. Any breakage beyond the established standard reduces proportionately the number of spindles which she can run. The newest innovation in this process is the longer drafts which are now found practical. Many mills are operating part of their equipment on this basis, and are realizing a substantial return on their investment.

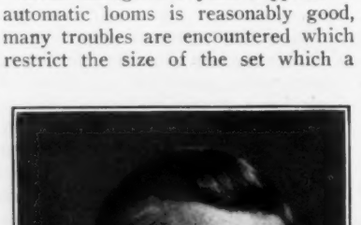
Spooling and Slashing

Spooling is an operation which is invariably paid on a piece work basis, with a comparatively high percentage of labor and machine efficiency. It is interesting to check the number of knots tied per thousand bobbins, to find out whether or not more yarn can be spooled with the expenditure of the same amount of energy on the part of the spooler tender. In one mill, spooler guides and tensions were adjusted, with the result that the number of knots tied was reduced 20%.

Dressing room problems are mainly concerned with materials, accessories, methods, and tensions. Two points ought always to be kept in mind: (1) Be sure that no improper tension is depriving the yarn of its natural elasticity, and rendering valueless the care taken in the card and spinning rooms. (2) Slashing costs may be increased materially without undue alarm, provided uniformly better warps are turned out, which will result in comprehensive weave room savings.

Automatic Looms

Even though the yarn supplied to automatic looms is reasonably good, many troubles are encountered which restrict the size of the set which a weaver can run. Most of these troubles have to do with the physical condition and settings of the looms. Good fixing requires a thorough understanding of the function of each part of the loom, and the use of good loom accessories. Inattention to many of these details is responsible for an incredible number of loom stops per day, which, in turn, lowers production and increases costs.



Joel M. Barnes, who spoke at Thursday afternoon session, N. A. C. M.

A good weaver is capable of starting a limited number of looms per hour. This number varies in accordance with the predominating causes of the stops, and the whole problem can be reduced to a relatively simple mathematical equation. If the operative is burdened beyond the limit, the resultant reduction in weaving labor is more than offset by the increased overhead expense due to the reduced loom efficiency. Frequent tests in your weave rooms are illuminating, and seldom fail to bring about improved conditions with attendant savings.

Adequate Humidifying Capacity

No cotton mill can be considered well equipped today unless it has sufficient humidifying capacity, with adequate automatic controls. Many mills show good manufacturing conditions on their humidity reports, but careful investigation will often disclose the fact that the stationary hygrometers used in compiling these figures are far from accurate, invariably indicating a higher percentage of relative humidity than actually exists. If the necessary moisture is not present in the air and in the stock, the end breakage rises and jobs have to be laid out on a proportionately smaller basis.

In conclusion Mr. Barnes discussed various obstacles to be overcome by cotton manufacturers in putting their plants on a profitable basis, under such headings as excessive productive capacity, overtime operation, frequent change of styles, violent fluctuations in the prices of raw materials, faulty selling policies and methods, antiquated equipment, and ineffective cost methods. He brought out the fact that low costs are impossible with very old machinery or equipment that is in poor condition. He urged manufacturers to face the problems before them squarely and with an open mind, and reminded them that many undesirable conditions will be solved by cooperation through their group associations and The Cotton-Textile Institute.

Value of Plant Surveys

Primary Object Is to Reduce Costs and Make Product Better

SIDNEY S. PAINE, president of the Textile Development Co., Boston, discussed the value of plant surveys made by outside men. He showed how one item of operation after another was taken up, fundamentals measured, and standards of performance laid down which yield the mill the greatest return. Mr. Paine's remarks were in part as follows:

Much has been said for and against the advisability of calling in outside men to assist the regular staff of a mill in effecting certain economies. Both Mr. Barnes and myself believe that the wisdom of this has been proved, for we have done a great deal of it ourselves. I believe that an outside organization, if it is made up of practical men, can return to a mill many times its cost for the following reasons:

(1) Because the men are all overseers, who are picked for their experience and analytical ability.

(2) Because they have been through a much larger number of mills than it is possible for regular overseers and superintendents to work in and thereby act as a "clearing house" for many mills.

(3) Their training has been to observe.

(4) The regular staff of a mill has not the time to go through the mill as minutely.

(5) An outside organization has definite objectives for the mill as a whole.

What a Survey Shows

Assuming that an outside organiza-

tion has been called in, the primary object for them to reach is to reduce the cost of manufacturing, and make the product better, if possible. With this in mind, the first step is to get a complete story about the mill, or, in other words, a survey. The survey tells the management definitely and in detail, the physical needs of the mill, in order that the machines may function as they should; the cost of the corrections that are recommended; and the returns to the mill. In other words, the management knows at once the figures on both sides of the ledger and the returns on the investment.

The procedure of the survey is as follows: (1) As all economies and benefits are based on good running work, the machines are examined in great detail, with the replacement of parts or repairs recommended. At the same time, fixing, settings, and all kindred elements are examined. (2) The organization, such as the adaptability of the cotton, balance of machines, drafts, speeds, and twists are studied.

(3) The mill is programmed according to the latest development of labor arrangement. (4) Machine stoppage tests, end breakage tests, and time studies are made. (5) Standards, including all of the above, are laid out for the mill.

As has been said before, a study, such as this is, is a sound basis upon which to base an estimate of the needs of the mill, the cost of corrections and the possible savings.

When the fundamental measurements have been made, a drawing together of the several lines can be made quite simply. I will not dwell too long on the things to which attion is given in every well run mill, but merely say that the basis on which conclusions and recommendations are made is to get a happy medium, never going beyond the point of diminishing return. This one picture of a happy medium or practical balance of the variables is the only one that I would like to leave with you. For every cotton that is used, there are extremes on either side and reasonable points at which speeds, twists, or drafts may be laid throughout the card room and the spinning room.

Cause of Loom Stoppage

The question of multiple looms, spinning frames, or speeders has been much discussed. Frankly I will admit that I have indulged considerably in this study. Many of the mills in which we have worked have obtained almost unbelievable results. On the other hand I cannot emphasize too strongly the point I have mentioned—that it is futile to pass the point of diminishing return and depart from a practical balance of the variables. Before any loom extension is made two things are necessary. In the first place the loom stoppage should be reduced to a practical minimum. Every time a loom stops there is a cause and in the average well run mill, a majority of these can be determined and many eliminated. For instance, we have found that in many

Sidney S. Paine, speaker at Thursday afternoon session, N. A. C. M.

mills from 40% to 60% of the loom stoppages are caused on the spoolers, warpers and slashers. Especially on the heavier constructions, a surprising percentage of the loom stops are caused by knots.

Importance of Yarn Elasticity

Again, we believe that yarn elasticity is more important for weaving than yarn strength. When a yarn is wet, it will stretch much more readily and come back less than when it is dry. As an example, if you hold 10" of 28s yarn between your fingers, you can stretch it possibly 5/16" without breaking it, and the yarn will show elasticity of possibly half that amount. Wet the same yarn and you can stretch it to pretty nearly 11", and it will not regain the original stretched length. So, we come to slashers, where stretch is a very vital element. There are four places where a slasher stretches the yarn—behind the copper rolls, between the two copper rolls, between the front copper roll and the drag roll, and between the drag roll and the loom beam.

Considering the one place, as an example, between the front copper roll and the drag roll, the best mill that we have seen has a stretch of 0.69%. We have seen, in other mills, from 3½ to 5%. This latter condition is exceedingly bad for weaving. When the elasticity is taken out of the yarn, high loom stoppage inevitably results. And so we might go on for hours, speaking of the causes of loom stoppage.

I could tell you of a mill where the loom stoppage was reduced 20% by properly regulating the lay and tension on the fine speeders, and of a great many other mills where the cause of the difficulty has been determined definitely and its elimination has reduced the loom stoppage to a reasonable minimum. As an illustration of this I could tell you of a mill where the weavers run 20 looms without battery hands. On hearing of what some other mills were doing they changed to 50 with battery hands. The task of the weaver was virtually impossible, yet, today, after the unnecessary causes of loom stoppage have been removed, the weavers are running 84. Many other mills have had a similar experience. This is the first step that should be taken before any thought is given to extension of weavers.

Balance Looms per Weaver

The second step is to get the same balance of the variables in laying out the number of looms that you expect your weaver to run. In other words, it avails the mill nothing to gain with its right hand and lose with its left. One mill had programmed its weavers for 64 looms to the weaver. A test showed clearly that a weaver on 64 looms would lose about 7% of cloth and the loss of 7% of the cloth is an enormous price to pay for loom extension. Today, the weavers are running 48 looms and getting off a little more cloth than they got on 18. In other words, the practical balance of wages and production can be made. A weaver could run 1000 looms, and get no cloth off, but it would not pay the mill. If we wish to extend our weavers, we must be conservative and practical in uniting all of the elements of cost, so that the mill will get the greatest results.

Going again to cotton with this same thought in mind, The Cotton Research Co., some years ago, got out frequency curves of fiber distribution, which the Government later adopted, showing the percentage of fibres of each length. We are going a step further in what are called Fibrametology Curves, which are really progressive summaries of fibers of a given length or another. We believe that the survey should examine very carefully the cotton that is being used. In the same way as in weaving, a mill can use almost any cotton but results proportionate to the cotton used will be obtained. We have seen mills making the same 64 x 60—5.35, using 7/8" cotton, and other mills using 1⅛". There is again a happy medium. We believe that the survey should examine the cotton scientifically for the standard and also variations found.

So, we take up one item after another in a mill, measuring the fundamentals, and trying to lay standards of performance along sane practical lines, that will yield the mill the greatest returns, and never going beyond the point of diminishing return.

Manufacturing Subjects Discussed

Lively Interest in Equipment, Methods and Labor Extension

IF the success of a program or of the chairman of a meeting, can be measured by the amount and value of discussion which follows the set addresses, the program committee and Chairman Gordon Harrower in particular have every reason to be satisfied with the Thursday afternoon technical session. Following the remarks by E. Dean Walen who was on the program to open the discussion, many of those in the audience were ready with questions without the usual urging on the part of the chairman. Mr. Walen spoke of the large field covered by Messrs. Paine and Barnes and stated that he considered it wise to limit his comments to the importance of good running work. Pointing out that this was a relative term and that what might be considered good running work in one mill would be considered unsatisfactory in another, he believed that the speakers had pointed out the way to higher standards. Continuing, Mr. Walen spoke of manufacturers conducting investigations in their own plants which showed that equipment as operated was often 30 to 40% inefficient, due to the time spent by operatives in performing their work. Inefficiency is also due sometimes to the use of better materials than are necessary. In Mr. Walen's opinion slashing is fundamentally wrong as conducted at present, as it is necessary to have elastic yarn for weaving, while the slasher tends to take out the elasticity. In conclusion, the speaker commented on the constant efforts of the machinery builders to make equipment more efficient.

E. Dean Walen, speaker at Thursday afternoon session, N. A. C. M., and recipient of Association's medal for his work in developing cotton airplane cloth; chairman Technical Committee

Chairman Harrower asked how a mill can start about making the improvements mentioned in the addresses of Messrs. Paine and Barnes. He inquired whether a mill that did not want to go through with a complete survey could start with one department or whether it would be advisable to wait until the entire mill could be investigated.

Mr. Barnes replied that carrying

out a program of this kind was like taking a cold bath—you either took it or you didn't take it.

In Mr. Paine's opinion the story of the complete plant should be obtained before starting to improve any department, and he also spoke of the corrections that can be made without a large expenditure of money by the addition of new attachments and parts to machinery.

Savings from Surveys

Russell H. Leonard, treasurer of the Pepperell Mfg. Co., asked for specific instances of actual savings by the methods discussed in the addresses of Messrs. Paine and Barnes, with a statement as to the types of mills.

Mr. Barnes replied that his knowledge of savings in print cloth mills was limited but in some types of cotton mills savings of 10% in labor and overhead had been made without a large investment in new equipment.

Mr. Paine said that he had seen print cloth mills on 28s to 40s yarns reduce costs 1 to 4c a pound, and in one extreme case costs were reduced 6c a pound.

Ward Thoron, treasurer of the Merrimack Mfg. Co., called attention to the fact that it is not going to help matters to make mill improvements and reduce costs and then immediately give these savings to customers. Mr. Thoron urged mills not to sell at a loss and spoke of keeping some of his looms idle instead of running all of his equipment and spoiling his market. In his opinion manufacturing economies can be of no help to mills if they pass on the savings to their customers and continue to make a loss for themselves. Commenting on the value of selling agents, Mr. Thoron said that it was of great value to the mill treasurer to get the advice and outside viewpoints of merchants. He also pointed out the value of the jobber to textile mill treasurers.

W. S. Pepperell, Board of Directors, N. A. C. M., and Chairman of Resolutions Committee

Reports and Elections

IMMEDIATELY following the discussion, headed by E. Dean Walen, of the papers on the "Developing of Cotton Manufacturing," William B. MacColl took the chair as presiding officer of the last session of his administration. Without further preliminaries he called in sequence for the report of Secretary Russell T. Fisher; report of Treasurer W. Irving Bullard, which was read by the Secretary in the absence of Treasurer Bullard in Europe; report of the Resolutions Committee submitted by Chairman W. S. Pepperell; reports of the various Standing Committees; report of the Nominations Committee, by Robert Amory as Chairman which was followed by the election of officers as previously noted. The new president, G. Edward Buxton, was then cordially greeted on behalf of the association by former-president MacColl, who presented him with a gavel made from timbers taken from the old Slater Mill, Pawtucket, R. I. President Buxton thanked the association for the honor conferred upon him, assured its members that he would do his best to prove worthy of the honor and hoped to have the active cooperation of all of the officers and members. C. F. Broughton was elected representative of N. A. C. M. on National Council.

Secretary's report and reports of the association's standing committees are on pages 109, 111 and 115.

Report of Resolutions Committee

The report of Chairman W. S. Pepperell of the Resolutions Committee was presented by John H. Holt and included the usual resolutions of thanks and appreciation of the addresses of the various speakers, and of Mayor Nichols' representative, and also the following resolution suggested by the statistical committee of the association which was unanimously adopted:

"Whereas, lint cotton and linters are entirely different commodities from a commercial point of view, going for the most part into different channels of consumption and being subject to different conditions of supply and demand. And, whereas, the inclusion of linters with lint cotton in cotton trade statistics leads to confusion, misunderstanding and misinterpretation,

"Therefore be it resolved that, so far as feasible, lint cotton and linters should be separated in all statistics on raw cotton.

"Resolved, that a copy of this resolution be sent to the branches of the United States Government which issue cotton statistics, the organized cotton futures exchanges of this country, the organized spot cotton exchanges of this country and any other organizations concerned."

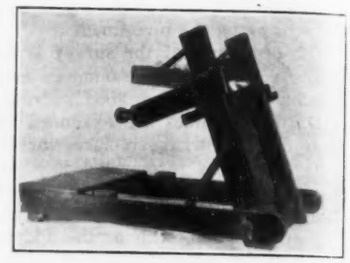
Russell B. Lowe, former President, N. A. C. M. and Member of Nominating Committee

Indian Hand Cotton Manufacture

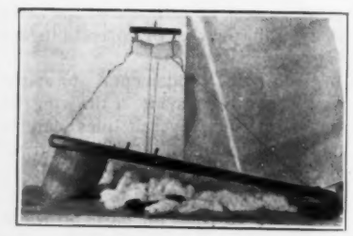
PRESIDENT Buxton then called upon former-President Albert Farwell Bemis of the Bemis Bros. Bag Co., operating cotton mills in this country and a jute mill in India, who gave an interesting illustrated description of Indian hand cotton manufacturing, as ordinarily conducted for thousands of years and as improved and stimulated by the so-called Gandhi movement. Mr. Bemis devoted a part of his address to the economic conditions of both the hand and machine cotton manufacturing industries in India and, while recognizing the strong hold that anything of a religious or ethical character, such as the Gandhi movement, exert upon a large percentage of India's population, he expressed the opinion that the latter would eventually go the way of many previous and somewhat similar movements.

A. F. Bemis, former President, N.A.C.M., who spoke at Thursday afternoon session

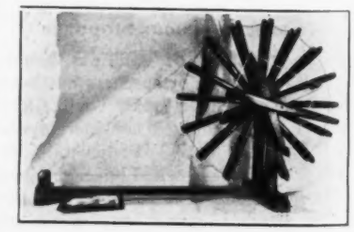
Much interest was aroused by the display of hand cotton manufacturing implements with which Mr. Bemis illustrated his talk and which included two types of hand gins; two so-called bow cards; a hand spinning spindle and a spinning wheel; also two looms, one being of the ordinary country type and the other a more modern development. All of the implements, excepting the country loom, were set up and the actual operations of the gins, the bow cards, the spinning spindle and spinning wheel were demonstrated by three Indian students from the Massachusetts Institute of Technology. Mr. Bemis acknowledged his indebtedness to Edward Schwartz of M. I. T. for aid in setting up and photographing the instruments.



An Indian Hand Cotton Gin



Bow for Opening and Cleaning Cotton



An Indian Spinning Wheel

Premiere of Viscose Rayo

THE final feature of the Thursday afternoon session and one that held the close and intensely interested attention of the large audience, was the premiere public showing of the Viscose Company's motion picture of rayon manufacture, entitled "The Romance of Rayon." It had been given a private showing in New York recently, but those who attended the convention saw its first public presentation. It was introduced and explained by Chester C. Bassett, Jr., assistant general sales manager of the

Viscose Co. His introductory remarks were in part as follows:

"When it is realized that rayon has earned third place in volume of business among all textile fibres, being surpassed in volume only by cotton and wool and outdistancing silk and linen, some idea can be gained of the industrial and economic importance to New England mill properties and communities of the entrance of this fibre into the textile family.

"It is greatly to the credit of the initiative and business acumen of New England mill executives that they looked ahead of their times and foresaw that the promise of popularity in rayon fabrics would be fulfilled in today's general acceptance of the new fibre.

"Seventy-seven million pounds of rayon yarns, approximately, are consumed yearly in this country. And, of this total, New England mills are handling over one-fourth, because of the traditional foresight of your great textile minds, your section of the country has established itself firmly, along with the South and Middle States, as among the leading rayon fabric producing centers of the world.

"Admittedly, it took courage on the part of your textile men to retool their equipment and enter upon production of materials the basic fibre of which has been produced in this country only since 1911. But, along with those of us who knew its good qualities, they took the step with great confidence.

"That confidence is justified by the comparative activities today in view of the volume consumption of rayon in mills such as those of the Newmarket Manufacturing Company, the William Carter Company, the Ipswich Mills, the Butler Mills, the Lorraine Manufacturing Company, the Manville Jenckes Company and others.

"I am not in position to comment upon the effect of active looms upon the mercantile and general prosperity of the communities where rayon-consuming mills are situated; but consider it most likely that rayon has had very beneficial effect in this direction.

"As for the future of rayon, one cannot be too enthusiastic. Despite American usage of rayon to a total of 77,000,000 pounds per year, this represents only about 33⅓ per cent of the total volume of rayon produced in the world. It is estimated that the world's production of rayon in the last twelve months is 230,000,000 pounds. To meet mounting demands The Viscose Company, producing over fifty per cent of all the rayon consumed in the United States, is planning for greatly increased production for the future and has only recently opened a new unit at Parkersburg, West Virginia.

"It is an assuring outlook for those mill communities in New England where rayon already has made its bow and for those others whose production in the future will find rayon combining its individual qualities along side by side with cotton, woolen and silken threads in the making of new and popular fabrics and garments."

Banquet Featured by Buxton and Barron Addresses, and Medal Awards to MacColl and Walen

Audience of Record Size Greets Speakers; Ovation to Buxton, MacColl and Walen

OF such a high standard of excellence had been the convention program prior to the association banquet, that was held in the grand ball room of the Copley Plaza at 7 o'clock, Thursday evening, that it would have caused no surprise to many veteran members of the association if the latter had proved an anti-climax. Many a play that was meritorious in every other respect has been doomed to oblivion by its final act, but such was not the case with the final session of the convention.

While former figures are not available at this writing it is believed that the attendance at this banquet broke all previous records as it was well in excess of 500; in fact, the seating capacity of the banquet hall was seriously taxed. There was nothing in the nature of an anti-climax in the ovations that greeted President-elect G. Edward Buxton when he arose to deliver his address and when it was concluded.

The report of the Medal Committee submitted by Chairman Sidney B. Paine was of a novel nature in that it made two awards: One to retiring president MacColl for the valuable service rendered to the industry by his masterful administration, and to E. Dean Walen for his distinguished service to this country and to its Allies in the last years of the World War resulting from his development of the cotton airplane fabric. Both Messrs. MacColl and Walen were given rousing ovations when they came forward to accept their medals.

C. W. Barron, the well known financial authority and publisher, can always be depended upon to talk interestingly, and while his address on "What is the Matter With New England?" contained little that was actually new to his hearers, it was presented in a manner that struck deeply into their minds, and the whole of his talk bristled with suggestion designed to keep New England on the industrial map.

"I do not believe that we New England people will permit the cotton industry to depart. I do not believe we will permit the villages that cluster along our waterways to become abandoned and the whole complicated web of commerce, trade, banking and transportation to suffer the very serious loss which would follow here upon our defeat and elimination.

"I do not foresee such a catastrophe. Today finds us working and planning to meet changing conditions. To the utmost of our abilities, we are adapting our equipment and organizations, making them more flexible; endeavoring to create better methods of merchandising; getting in closer touch with our markets; recognizing the consumers' demand for individuality and personality and style and beauty in color and outline and weave and standards of quality. Our friends must remember that such changes come about very gradually, no matter how great the energy behind them.

"If the usages of dress have changed we know also that a decorative age has created new demands in this populous Republic, which may far exceed the old. We know that countless industrial uses for our fabrics have arisen and will yet arise. We have textile traditions in the personnel of our organizations, accumulated experience, resourcefulness, loyalty, a willingness to attempt the difficult and the will to conquer, through patient hard work and experiment."—*President Buxton's banquet address.*

Pres. Buxton's Banquet Address

IT seems that we are living in an era of rapid change and frequent readjustment. The social and economic facts of life have assumed a vast complexity.

From every source of leadership, private or governmental, we are urged to abandon purely traditional or unscientific methods; we are told that we must set up fact-finding agencies. We must use these facts in making a sound estimate of the situation, and then revamp our policies, both in manufacturing and merchandising, to harmonize with a changing business world.

To all of these promises, I sincerely subscribe. I suspect, however, that these same general principles were urged by Pharaoh's engineers at the building of the pyramids, and at the first meeting of the Cotton Institute of Carthaginian merchants, before their purple sails were sent beyond the Pillars of Hercules. The fact that new forces are constantly arising and compelling new solutions was recognized by one of the first Greek philosophers, Heraclitus, who tersely remarked, "All things flow."

Even the general New England public now shares with us in some measure a knowledge of the problems with which we are contending. The average citizen understands that there have been changes of the most sweeping character in the styles and nature of universal apparel; that world and sectional competition has multiplied in severity, and that cotton itself has been compelled to face the challenge of other basic fibers. It is common knowledge that much expansion has gone south, and that many a New England cotton mill, inseparably linked in the historic background of these states, has closed its doors forever.

As we reach the cross roads of 1927, we find remaining in New England 16,696,042 spindles in place, representing a capital investment of nearly $900,000,000 (over 15% of the total capital values in the six States), with about 200,000 employees, and a huge allied army of men and women in enterprises directly dependent upon the continuation of the present industry in New England.

Let our fellow citizens understand that we have a sincere sense of trusteeship in our management of these properties; that we recognize our responsibilities not only to our stockholders and employees, but to the general well-being of the communities that have sheltered many of our companies for a hundred years. No man need forfeit anything of loyalty to his country as a whole, who confesses to an honest sentiment for that section in which he has elected to live and work and fulfill his destiny.

The most unimaginative among us must feel the magic of our mountains and river valleys, green fields and orchards and stone walls, with the salt tang of ocean blowing inland through the marshes. Our title to this soil was written by courage and hard work, and the will to plan and sacrifice for another day. We have here demonstrated by a mingling of all races that

a nation is built upon a united national spirit, and not upon homogeneity of blood. In the 328th Infantry we told our foreign-born Americans, many of whom were located in New England States, that one is an American, however recent his arrival, who cares enough about the institutions of America to uphold them in peace and to die for them when necessary in war. The wooden crosses we left in France were proof enough of their acceptance of this doctrine.

So we are involved, it seems to me, in issues more important than our individual successes or failures. I do not believe that we New England people will permit one of our essential industries to depart, the villages that cluster along our waterways to become abandoned and the whole complicated web of commerce, trade, banking and transportation to suffer the very serious loss which would follow here upon our defeat and elimination.

Gentlemen, I do not foresee such a catastrophe. Today, finds us working and planning to meet changing conditions. To the utmost of our abilities, we are adapting our equipment and organizations, making them more flexible; endeavoring to create better methods of merchandising; getting in closer touch with our markets; recognizing the consumer's demand for individuality and personality and style and beauty in color and outline and weave and standards of quality. Our friends must remember that such changes come about very gradually no matter how great the energy behind them.

If the usages of dress have changed, we knew also that a decorative age has created new demands in this populous Republic, which may far exceed the old. We know that countless industrial uses for our fabrics have arisen and will yet arise. We have textile traditions in the personnel of our organizations, accumulated experience, resourcefulness, loyalty, a willingness to attempt the difficult, and the will to conquer, through patient hard work and experiment.

And, finally, I take it for granted that in this day of closer human relations and more universal education, no leadership, however, wise the vision, can achieve any real service to the industry or the community unless its purposes are shared and understood by the men and women who manufacture and finish the fabrics and effect the distribution. Genuine success will demand industrial harmony, based upon the voluntary discipline of good will and intelligent self interest. Such results will follow where leadership desires human justice, seeks friendliness between man and man, and offers to all concerned the frankest explanation of the common problems.

Presentation of Medals

AN unusual and notable feature of the convention, and particularly of one of its banquets, was disclosed in the report of the Medal Committee. The committee was headed by Sidney S. Paine, chairman, himself a recipient last year of one of the medals, his co-workers being George A. Boyd, treasurer of the Appleton Co., and James H. Whitehead, treasurer Boston Manufacturing Co.

The association medal is presented annually for distinguished service to the industry, whenever anything has been done to warrant it in the opinion of the committee, and occasionally a year has passed without presentation of the medal. This year, for the first time that the writer can recall in more than a quarter century two medals were presented, and if the apparently surprised appearance and hesitating responses of the recipients may be accepted at face value both were taken unawares. The presentation took place immediately following the opening address of President G. Edward Buxton the latter calling upon Chairman Paine for his report which was as follows:

W. B. MacColl Honored

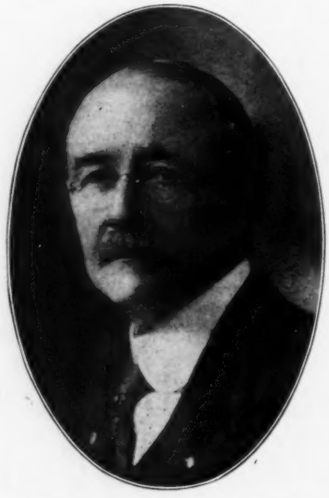
"The medal committee," said its chairman, Sidney B. Paine, "has given careful consideration to the award of the Association medal, which it has been the custom to bestow, in recognition of outstanding service rendered to the Association, or to the industry at large. While several of our members might be named whose contributions of time and effort would seem to entitle them to such recognition, the committee unanimously agreed that two of our members were especially worthy of such action at this time.

Our industry has been passing through the most trying period of its existence. Recovery from the disturbing effects of the war has called for a wise and courageous policy. We have been most fortunate to have, as our leader during the past two years a man thoroughly trained in all branches of the cotton industry. When our country entered the war, he came to Boston with the rank of captain in the Quartermaster's Depot where he showed such organizing ability that he was called to Washington where he rendered similar service for the depots at New York and Philadelphia.

"In response to a cablegram request from Paris, he organized and equipped a regiment of casuals which he took to France. Later he became Assistant Chief Purchasing Agent with the rank of Major. So satisfactory was his service in France that shortly before the close of the war he was recommended for the rank of Lieutenant Colonel. His work was of such value to the Allied cause that he was decorated by the King of Belgium.

"He brought to our Association the same qualities of leadership that he had shown in the service. He has unswerving faith in the prosperity of our industry in New England and with unfaltering courage and great wisdom has guided us through two of the most critical years of our existence." (Applause.)

As previously noted Mr. MacCall



Sidney B. Paine, Chairman Medal Committee, N. A. C. M.

was visibly embarrassed, but had regained his normal poise before Chairman Paine handed him the medal, and he thanked the committee and the association, protesting that such success as had attended his two-year administration was due more to his cooperating associates among the officers and members, which remark received another round of applause.

E. D. Walen Receives Medal

The other recipient of an Association medal was not kept in suspense for Chairman Paine named him in his

James H. Whitehead, Member Medal Committee, N. A. C. M.

first sentence. In presenting a medal to E. D. Whalen, assistant agent of the Pacific Mills, Lawrence, and originator of a cotton airplane fabric which proved superior to linen and averted a crisis in the manufacture of airplanes during the World Was when the supply of linen failed, Mr. Paine said:

"The rapidly increasing use of the airplane, during the early years of the war, presented many serious problems. The study of airplane cloth was begun by the U. S. Bureau of Standards in January, 1916, but when the United States entered the war in 1917, it was given most serious attention. Before that time linen had been assumed to be the only material which could be used successfully. When high powered motors were adopted it was found that even linen could not withstand the strain. Furthermore, it became difficult to obtain sufficient linen as the supply of flax was inadequate.

"In this emergency the problem was referred to a young man connected with the Bureau of Standards. He was not discouraged by the seemingly well founded opposition to the use of cotton for that purpose. He at once commenced a thorough investigation of the requirements and satisfying himself that with a proper construction of cloth cotton could be used he enlisted the support and co-operation of some of our members, in its manufacture.

"In August, 1917, under the supervision of Frank E. Ricketson, cotton cloth, based upon specifications devised by this young man, was first successfully made into a flying fabric, at the Ponemah Mills, Taftville, Conn. Albert L. Pierce, Charles M. Holmes and John L. Burton, all of New Bedford, and John Skinner then of Easthampton, also co-operated in the development. This fabric proved so satisfactory that it was adopted as standard by the U. S. Government and four million yards were sold to one of our Allies.

"After peace had been declared, this young man came to Boston and became president of the Cotton Research Company where he continued his investigations and demonstrated conclusively the value of the application of scientific analysis to the solution of our manufacturing problems. The adoption of his methods has proved of great benefit to many of our mills.

"He is now an honored member of this Association. On account of the eminent service he rendered to his country and to our industry in time of peril and also because of his subsequent pioneer work among the mills, the medal committee agreed unanimously that a medal should also be awarded to E. D. Walen.

"Mr. Walen, the medal committee takes great pleasure in presenting to you this medal as an evidence of the appreciation of your associates of the great service you rendered to your country and to the cotton industry during the war, and also of the great value of your later work in demonstrating, in a practical way, the manner by which our manufacturing methods may be improved." (Applause.)

In accepting the medal from Chair-

man Paine Mr. Walen spoke briefly and modestly declaring that his associates at Washington and the cotton manufacturers who cooperated with him deserved greater credit than they had received. (Applause.)

C. W. Barron Speaks

Following the report of the Medal Committee, Toastmaster Buxton introduced as a fellow newspaper man and publisher C. W. Barron, the principal speaker of the evening, who is the publisher of "Barrons," the Boston News Bureau and other financial papers, whose announced topic was "What is the Matter With New England." Mr. Barron's address was in part as follows:

Address by C. W. Barron

THE address of C. W. Barron, financial publisher, Boston, Mass., the principal speaker at the banquet, is in part as follows:

The subject of "What Ails New England" must be considered tonight on lines of business and finance. There is nothing especially the matter with New England organically, politically, socially, or geographically, although President Mellen of the New Haven Road used to declare to me that New England would be better off if the Hudson River were also the Atlantic Ocean, and New England, like Old England, were isolated geographically from the Continent, and therefore compelled to develop and trade as a unit. The diagnosis—The country is asking "What ails New England?" I will endeavor to answer from some years of necessary study and reflection upon New England's problems, and my answer is—

First: Orphanitis, the disease which kills great corporations, destroys initiative and limits growth and expansion. We are all endeavoring to pass property on to the widow and the orphan. We really pass it on to a trusteeship for them, where conservation must take the place of creation.

Second: New England has fruited and the rest of the country has grown up, so that New England's relative importance is diminished—as it should be.

Third: Our uneconomic and unsound educational system.

The South's Gain

Spindles in the cotton States increased from half a million in 1880 to a million and a half in 1890. To four million four hundred thousand in 1900, and was more than doubled again to ten and a half million by 1910. Now they stand at seventeen and a half million. But the consumption of cotton bales in the South was nearly four million eight hundred thousand in 1926 as compared with only one million seven hundred thousand in New England.

And right here is the story, and the lesson: The cotton States are spinning their own cotton, but the northern States are manufacturing goods from both cotton and cotton cloth.

A Ripened New England

New England is still a great, if not the great, manufacturing center of the United States. Our late war found New England the tool makers and the machine makers for the country, and thence for the world at war. Nowhere in the United States is there such a diversity of manufacturing interests as in New England. Nowhere is there such a diversity in skilled labor and technical training.

For engineering talent, for constructive work, for lines in mechanical ideas and education, the whole country still draws upon New England. Indeed, in this respect New England gives to the whole country from her educational and technical schools more than she received in return. New England has fruited, and the rest of the country has developed under ground and above ground.

C. W. Barron, Financial Publisher of Boston, who was principal speaker at the N. A. C. M. Banquet

As to educational needs of the textile industry, Mr. Barron said:

If New England is to win in cotton and with cotton, New England should soon be taught the mastery of cotton in its production, its selection, its transportation, its mixing, the service of the round bale, its economies in spinning, and the economic use of power and all the service into which cotton may enter in all quarters of the globe.

New England still has too many cotton spindles and too few schools of instruction concerning cotton and the service of cotton, and these cannot be understood without a knowledge of fashions and finance. New England spinners may be classed with New England professors and preachers—they are all too poorly paid because they have not found the true economics and the true values in their production. The New England preachers and professors and cotton spinners are not, as a whole, bringing back the dividend. University education deals too much with the dead past. Business deals with the living present, with life as it is and the demands of life for food, fuel, clothing and shelter. The ends of business and of education should be one—human service. Business must be a basis on which higher education is founded.

The speaker asked: Now, what makes business? The shoes and clothes that you wear, and the food that is necessary for your sustenance? Not at all. The physician and scientist will tell you that the food business is made good by food in varieties, by food waste and by food on your table that you do not eat or need. The shoe maker will tell you that business is good according to the number of shoes the men, and especially the women, have in their wardrobe closets for varieties of weather, dress and occasion.

The clothing business is made good not by the clothes we wear, but by the variety we have in store and the amount of brushing we give them, together with the assistance of the nimble moth. It is consumption that makes business, and the profit of business, low prices and mass production. It all works in a circle. If you have big consumption, you can have mass production and low prices.

No nation has ever yet filled its individual or collective needs. "Give me the luxuries of life and I care not who has the necessities," says the modern philosopher. Business is based upon luxury and possession, the waste of luxury and the service of possession. One want and one luxury quickly begets another. The vibratory telephone and the vibratory railway and motor car supplement the vibratory advertising, which multiplies the wants and fills those wants before desire abates.

Herein is our mass production; herein is our full employment of labor. Here is the round of prosperity. The English economists are just beginning to learn that the American employer is seeking all the time to discover how much he can pay in wages in contrast with the English employer who has used all his powers to discover how little he can pay in wages.

Our problem is not wholly a question of American greatness or American size. It is not an emphasis of the American essay on the elephant—"How to make larger and better elephants"—it is a question of fundamental business development that we may in time have the higher spiritual development and not endanger it.

But, when you ask me, "What ails New England?" I must answer frankly that New England has fruited, has passed her pioneering stage. The stage of invention, the stage of agriculture, the stage of long hours or work, the stage of factory development, of pioneering railroad construction. New England has fruited and has passed into the investment field, and her future can be conserved only by the most liberal education in business economics and investment, and all these are one in human service, in the family service, and in the service of state and nation.

For the defence of New England, I would have business and the service of business put more and more to the front in our New England educational life. I would put over the entrance door of every university—"Let no man enter or leave here who has not determined his line of service." Thus I would conserve the energies of youth and accentuate them and multiply them in human service for the upbuilding of New England, and for the upbuilding of our country and the world.

J. E. Edgerton Again Heads National Manufacturers

John E. Edgerton, of the Lebanon Woolen Mills, Lebanon, Tenn., was reelected president of the National Association of Manufacturers for the eighth time at the 32nd annual convention held at Chattanooga, Tenn., this week.

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See also CONSOLIDATED TEXTILE CATALOG

Wool Goods Imports

Analysis Made by U. S. Tariff Commission

WASHINGTON, D. C.

THE U. S. Tariff Commission states in a report just issued on woven fabrics of wool, other than floor coverings, that according to an analysis of imports of woolens and worsteds entered under paragraphs 1108 and 1109 of the Tariff Act of 1922, practically all fabrics enter under the highest value brackets, namely, at more than 80c a pound.

"This indicates a maladjustment of value limits at the present level of prices," the Commission's report continues. "Three-eighths blood wool was selling in London in July, 1925, at 82c per pound and half-blood at 95c, clean content. Allowing for waste in manufacture, their cost to the manufacturer in the finished fabric was at least a fourth higher. Assuming other costs to be equal to the material cost, it would appear that few British fabrics can be produced of all wool at less than $2 per pound.

"The average value of woolens and worsteds entered under paragraphs 1108 and 1109 in 1924 was $1.80 and in 1925, $2.07 per pound. On the basis of the above figures it would appear that the compensatory duty on fabrics between 80c and $2 per pound includes a substantial amount of incidental protection, inasmuch as such fabrics must be made in part of wool substitutes, and yet they obtain the full compensatory duty of 45c per pound, on the assumption that all the wool contained in them is "virgin" wool dutiable at 31c per pound.

"The compensatory duties of the tariff act of 1922 were computed on the basis of data compiled by the Tariff Board of 1911. The greatly increased cost of materials, however, throws the present value classifications out of adjustment and does not allow cloths of medium and low grades to be entered on a parity with those made of the higher grade wools. In 1925 wool cloths, weighing more than 4 ounces a square yard, valued at not more than 60c per pound, paid an equivalent ad valorem rate of duty of 83.77%; those valued at more than 60c but not more than 80c a pound paid 104.30%; and those valued at more than 80c a pound paid only 70.90%."

The Commission's report states further that the fabrics imported under the Tariff Act of 1922 do not compete on a price basis with comparable domestic cloths. Imports have been restricted almost wholly to fabrics of the finer grades while the bulk of the domestic production consists of fabrics of medium quality. These goods are made into clothing and sold to the great middle class of consumers who constitute the largest market in the United States.

Comparing domestic and foreign worsteds, which pay a duty of 45c a pound and 50% ad valorem, the Commission's report states that to the average consumer, each of the domestic and imported fabrics would be identical in appearance.

"In fact they proved upon analysis to be approximately the same in type of wool used, yarn numbers, construction, and weight," the report continues. "Nevertheless, the imported fabrics sold at much higher prices simply because they were imported. In general, it can be said that imported fabrics of wool sell on the American market at higher prices than the nearest comparable domestic fabrics. The domestic cloths are sold mainly to the manufacturing clothier, while the bulk of the imported fabrics are consumed by merchant tailors.

Three-Phase, Brush-Shifting, Shunt-Characteristic Motor Applied to Variable-Speed Spinning

Maintains Constant Yarn Tension on Ring Frame with Greater Production and Less Breakage

*By E. A. Untersee and J. L. Hull**

TENSION on yarn while spinning is greater on the upper end of a filling-wind traverse than on the lower end—except, of course at the beginning of the build—because the diameter of the yarn package at the upper end is practically the diameter of the bare bobbin, while at the lower end it is the diameter of the completed package. The fact that at the base of the bobbin this relationship does not exist should be provided for in arranging a variable speed. Toward the end of the doff, when the ring rail is at a relatively high position, the ballooning action is stiffer, due to the shortened length of yarn between the front drafting rolls and the traveler. Variations in speed to allow for these varying conditions can be satisfactorily provided, it is claimed, by the use of the three-phase, brush-shifting motor of shunt characteristics.

IT has been realized for some time by the spinners that if some means could be devised whereby the tension on the yarn could be kept constant during the cycle of spinning a bobbin full of yarn, higher spindle speed, less end breakage, improved quality of product, and increased production would result.

Mechanical devices failed to meet these conditions and it soon became a problem for the motor manufacturer to solve. Rapid progress was being made at this same time in the design and manufacture of electric motors, and it was not long before an alternating-current, variable-speed induction motor was put on the market. Mill manufacturers soon realized the value of the special characteristics of this type of motor and experimented with it on ring-spinning frames.

The general practice is to direct-connect the motor, if possible, to the cylinder of the frame. Then by varying the speed of the motor the spindle speed is varied.

When winding the yarn on a filling-wind bobbin, the ring rail is not raised and lowered at the same speed; that is, the rate of travel in one direction is usually much slower than that in the opposite direction. As the rail reaches its lowest position, the rate of travel is slowest, permitting a greater amount of yarn to be wound on the bobbin than when the rail reaches the top of its traverse, and thereby causing the winding of yarn on the bobbin to assume a conical shape. When the rail is moving from one position to the other slowly, the yarn is being wound on the bobbin closely, and when the rail is moving rapidly in the opposite direction, these layers are being bound on so that the first layers will not slide off and cause trouble in later working processes.

Tension Changes

When the spindle is turning at constant speed during the rise and fall of the ring rail, it can be seen that the thread tension changes with the winding of yarn at these constantly changing diameters and is greatest when the yarn is wound on the small diameter and lowest when wound on the large diameter.

In order to equalize this tension on the yarn, the spindles run slower when the rail is at the small diameter of the bobbin and gradually increase as the rail reaches the large diameter. It is impossible to give a definite rule as to how much the speed should be varied because of the many variables in the quality of the material being spun. Long-staple, high-quality fibers will permit more variation of speed than short, poorer qualities. Condition of the travelers on the ring, condition of the top draft rolls, and many other frame conditions, as well as the amount of humidity, limit the amount of speed change possible.

There is another stress on the yarn during the spinning process. This consists of the ballooning of the yarn, and it has a serious effect on the amount of increase in speed which can be applied to the spindles.

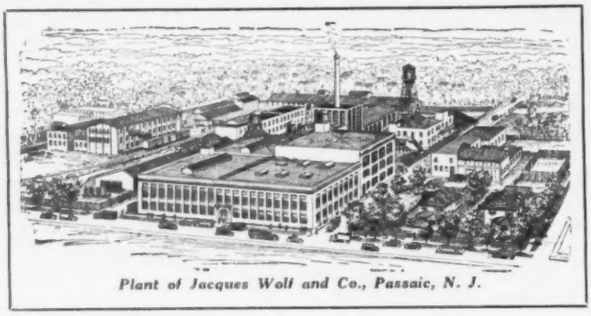
The balloon is the bulging of the thread due to the centrifugal force of the revolving thread. Its size becomes a function of the thread pull and the distance between the guide-wire eye and the traveler on the ring rail. It is greatest at the beginning of the spinning process, at which time it has considerable elasticity, thus permitting higher spindle speeds than at the end of the spinning process. At the end of the process the ring rail is in a relatively high position, and the distance between the rail and the guide-wire eye is short, with the result that the balloon becomes small and much less elastic. Therefore, if too high a speed is maintained at the end of the spinning process, considerable breakage of ends will occur.

Satisfactory Speed

The most satisfactory type of speed curve for maintaining constant tension on the yarn during the spinning process is one which will allow only slight variations of speed at the starting of the cycle, when the base of the bobbin is being built and the difference of diameters is only slight. This variation is gradually increased until the difference of diameters of the bobbin has reached a maximum, and continues in this manner until near the end of the process when the speed variation must be reduced to compensate for the shortening of the balloon effect.

When the proper speed curve has been obtained for any given yarn, the resultant advantages will be: (1) maximum production of yarn, (2) minimum breakage of ends, (3) more

*Both of General Electric Co. Article is abstract of two papers read at recent meeting of textile specialists at Swampscott, Mass.



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of operators' time available for cleansing machine and other duties, (4) more uniformly wound bobbin, (5) increased yardage, and (6) better quality of yarn.

It immediately appeared that the alternating-current, series-characteristic, variable-speed motor was a marked improvement over the older-method drives for this specific class of work, and it was exploited to a great extent in many European countries and to some extent in America. It could be designed to meet the conditions of the textile mills, and its speed range was sufficient to meet the requirements of all classes of spun fibers. The speed could be changed in infinite numbers of steps, and suitable controllers were designed to regulate the speed in accordance with the requirements of spinning.

For a time this motor received serious consideration; but, after much experimentation in the field under conditions which were not always ideal, it was found impossible to maintain for any length of time a definite type of speed curve, due to the inherent characteristics of the series motor. When slight changes of load on the frame took place, such as overnight and week-end shut downs, the speed of the motor changed materially. Variations of voltage or frequency also affected motor speeds. These speed changes were very often great enough to cause serious annoyance in the spinning process. Slight changes in motor design overcame these annoyances to a degree, but never eliminated them.

Results Successful

The motor manufacturers both in Europe and America then studied the application of the three-phase, shunt-characteristic motor, which had met with much success in other lines of manufacture. Results show that this motor meets the most exacting requirements of the manufacturer in maintaining speed curves which allow the constant yarn tension system to be used on ring-spinning frames.

Results of tests made on this type of motor have shown between 10% and 12% more production and better than 50% less breakage of yarn during a doff.

Mechanical Requirements

For the protection of the motor itself and for the protection of the operators, it is desirable to have an enclosed motor. To meet the many differing requirements, the ideal motor is believed to be totally enclosed; ventilated by means of built-in fans; designed so that it can readily be mounted to have the intake either from the room (through screens) or from a duct for outside air; and arranged to discharge the heated air into the room if beneficial or harmless, or into a duct to convey it away if harmful. The cooling should be such that excessive radiation from external parts will not take place.

In order to obtain minimum length, ball bearing construction is often advisable.

Often direct connection to the cylinder of the spinning frame is a simple and satisfactory drive, but in order to have a flexible motor applicable to frames of various speeds and to either one-cylinder or two-cylinder machines driven by two motors and with cylinders too close together to allow of aligning two direct-connected motors, the motor design should be such as to permit of chain or gear drive as well as direct drive.

The speed-control means should be such that the operator can readily disengage from the automatic speed controller for a shutdown and restart, which must not be too violent, and easily reengage for continued automatic speed control.

Last, but not least, the design must be such that any brushes, commutators, collectors, etc., which are to be used are easily accessible for inspection and maintenance.

The above mechanical requirements can be worked out satisfactorily for any of the known types of a.c. or d.c. motors.

Performance Characteristics

The performance characteristics can be examined under subjects as follows:

1. Load-speed characteristics:

The load-speed characteristics of the motor are believed to be of very great importance. To obtain the maximum advantage of varying-speed spinning, it is essential to be able to repeat an elaborate cycle of speed variations against the position of the yarn on the bobbin as many times as wanted and within rather small variations, from one cycle to another. The frames drive harder after a shutdown than when warmed up. So there is a period of harder running after each afternoon start, a worse one each morning, and a still worse one each Monday morning. For these and other reasons a motor whose speed is not greatly altered by a moderate change in load is greatly to be desired.

2. Effect of variation of voltage and frequency upon the speed, etc.:

It is apparent from the above discussion that any variation in speed from the above causes, which would of course be out of control, would introduce undesired arbitrary variations. Similarly, a variation in speed due to heating up of the motor itself —while, due to its periodic character, it could to some extent be controlled by periodic manipulation of the supply voltage,—would still introduce complications and be objectionable.

3. Starting and running torque:

When a frame is cold or stiff, it may require considerably more than normal running torque to break away, so that a liberal starting torque is very desirable in the motor. On the other hand, there may be a little slack in the yarn between the front rolls, traveler, and bobbin, so that with too abrupt a start the yarn may at times, break as a result of a yank. Therefore in some cases it is of advantage to be able to vary the starting torque at the will of the operator.

4. Smoothness of control:

Because of the gradual variation in speed that is needed and of the almost infinite variety of speeds necessary to fully exploit the possibilities of the scheme, a step-by-step variation in speed would need to be provided with a very large number of possible points. Any system by which the speed is continuously adjusted, of course, affords in effect an infinite number of speeds and fully meets this requirement. It is, of course, essential to eliminate as nearly as possible all lost motion be-

(*Continued on page* 165)

Two Arkwright Tests

Weight Added to Cotton Fabric by Starching — Roving Twist

TWO tests recently conducted by applicants for membership to The Arkwrights, Inc., the southern cotton-research organization with headquarters at Charlotte, N. C., are summarized in the following paragraphs.

Weight from Starching

A test was conducted by Ira L. Griffin, southern representative of Stein, Hall & Co., Charlotte, N. C., to determine the percentage of weight added to various cotton fabrics by starching, as shown by desizing. From ten different mills samples of 64 x 60, 5.35-yd. print cloth were obtained. Five samples of 68 x 72, 4.75-yd. print cloth and five samples of 72 x 76, 4.25-yd. print cloth were also obtained. The following table gives the results:

64 x 60, 5.35-YD. PRINT CLOTH

Mill	Moisture, per-centage	Size, per-centage
1	6.6	6.1
2	6.9	6.3
3	6.8	7.4
4	6.3	7.1
5	6.3	5.4
6	6.3	6.1
7	6.7	7.2
8	6.4	5.2
9	6.2	7.5
10	6.1	5.2

68 x 72, 4.75-YD. PRINT CLOTH

1	6.4	7.3
2	6.3	5.8
3	6.2	6.7
4	6.5	7.3
5	5.8	5.9

72 x 76, 4.25-YD. PRINT CLOTH

1	6.1	7.3
2	5.9	6.3
3	6.1	7.6
4	5.9	7.3
5	5.8	7.7

Effect of Twist on Strength

A test was conducted by H. K. Hallett, manager of the Kendall Mills, Inc., Paw Creek, N. C., to determine the difference in end breakage and breaking strength of 29.50s yarn made from 5.34 hank roving with twist multiples on the speeders of 1.34, 1.40, and 1.46, respectively. The cotton used was one-inch middling of good character.

An end-breakage test in spinning gave the following results:

Twist multiple	Ends down per 100 spindles per hour
1.46	3.1
1.40	3.2
1.34	6.6

Yarn from 252 bobbins was reeled, weighed, and broken with the following results:

Twist multiple	Yarn number	Break in pounds
1.46	29.59	59.25
1.40	29.67	57.75
1.34	29.85	59.07

The following summary of the results was included in Mr. Hallett's report:

"The breaking strengths for the different twist multiples were practically the same.

"The ends down per hundred spindles per hour showed the yarn spun from the 1.46 and 1.40 twist multiples as about even, but from the 1.34 twist multiple they were twice as high.

"In taking end-breakage tests, there always are a certain number of ends down for unexplainable or unclassified reasons. In the 1.34 multiple test the unclassified causes were 4.1 in comparison to an average of 2.4 for the other two tests.

"From a spinning point of view, a 1.34 roving twist multiple is not sufficient for good running work."

The above tests are submitted as the findings from these applicants.

The results are not intended to be conclusive, as The Arkwrights expect to compile numerous similar tests before announcing a definite conclusion.

The Arkwrights welcome criticism and suggestions of the methods used in making the tests.

Effect of Humidity

Strengthens Cotton Fiber as Well as Yarn

By Westford

It is a familiar fact that the degree of humidity of the atmosphere affects the strength of cotton yarn, the yarn being stronger at the higher humidities. The British Cotton Industry Research Association, in setting out to obtain a complete explanation of this effect, has recognized that it might reside in an actual increase in the strength of the cotton itself; or that it might be due to a change in the yarn structure—an increased clinging power of the cotton fibers from changes in their elastic properties.

In following the usual scientific procedure of testing one thing at a time, they have recently reported the results of a research on the change in the actual strength of the cotton. As an average of five varieties in nine series of tests, it was found that the strength of single cotton fibers does increase to the extent of 10 to 15% above that of the breaking load at 44% relative humidity. Above 66% relative humidity there is not much further effect.

There is no doubt that the final explanation will also include a strengthening due to increased clinging power of the fibers.

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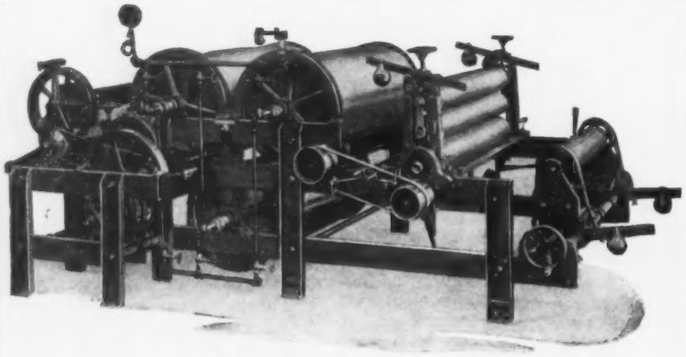

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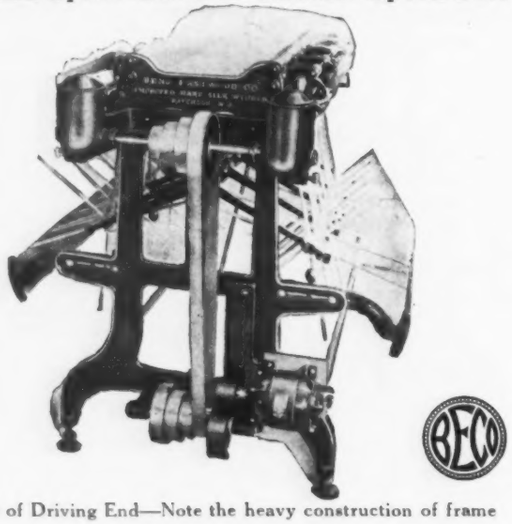

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INQUIRIES INVITED

Recent Developments in the Manufacture of Rayon and Rayon Goods

New Reed for Rayon—Processing Rayon-Striped Goods — Applying Cellulose-Acetate Coatings

By F. W. Sturtevant

IN the accompanying article several new and important findings in the rayon field are discussed. A new reed has been brought out on the Continent. An American chemist has found a way to obtain two-color effects on viscose-cotton goods in a single dyebath. A practical dyer gives some hints on the correct mechanical devices to use for bleaching, printing, and finishing rayon-striped goods.

NOTICE has just been received from Europe regarding the bringing out of a new type of reed particularly adapted for use with rayon warps. Improvements in production of rayon have naturally led to improvements in manufacturing rayon goods, and many devices have been used by the weaver to prevent warp breakages, chafing in the loom, and uneven tension, all of which tend toward the production of imperfect goods. Much difficulty has been encountered at the reed, where the motion of the lay easily damages the sensitive rayon yarns, causing breaks, or, what sometimes are even more troublesome, bunches of fibers on the yarn. Of course this trouble may be overcome simply by using a coarser reed, but the difficulty here is that the quality of fabric may demand the use of a fine reed. The new reed is claimed to allow for the use of the densest settings, at the same time allowing for the use of the finest reeds with a uniform spreading of the warp ends.

Novel Reed Construction

As described in foreign accounts, the new reed really consists of two reeds which cross through each other. In one of these the wires are soldered; in the other they are not soldered, but are loosely strung on a rail. The arrangement of the reed is such that a U-shaped rail, which is attached at adjustable angles, carries the back part of the reed. By the adjustable U-rail, it is possible to set the reed for the beating up in a few minutes. In the loom its use is said to be practical even in the greatest widths.

The setting up of the reed in the loom is done by fixing the solidly soldered reed in the usual manner. The second reed, which reaches through the firm reed, is carried by the U-rail and is fastened on the upper race plate, and below, behind the lay sword. The U-rail is fastened in an adjustable manner and can be fixed to suit the beating up. The first movable reed does not hinder the passage of the shuttle, since it is pressed back automatically by a spring.

The stability of the reed is the same as with the ordinary reed, and the simple parts of the movable reed are easily attached. The fineness of the reed only plays a part in the crossing of the two reeds while beating up. The movement of the two reeds to each other at the beating up is so small that the reeds do not act like a shear on the warp.

A splitting of ends is said to be impossible, since the loosely arranged reed wires press into the middle of the firmly soldered reed spaces. This, particularly, permits the perfect distribution of the warp ends, as the warp guides the flexible wires. Obstructions, such as knots and bunches, pass the reed without any trouble because the wires can easily spread. The arrangement of the adjustment is such that only one setting is required, and once it is adjusted properly, it will perform perfectly without readjustment. Because of the fact that it can be minutely adjusted, it is possible to weave all weights of goods. This type of reed is said to be suitable for every kind of goods, but particularly valuable with loosely twisted yarns, on which it works very satisfactorily.

Cross-Dyed Effects

One of the most interesting developments brought to the writer's attention during the last few weeks is that of an American chemist who has succeeded in producing two-tone effects on viscose-cotton fabrics. The inventor has worked for some time attempting to cross dye the two fibers in a single bath, and samples prove that he has now found a way to do this. The process consists of adding certain chemicals to a direct cotton color dyebath. It is stated that colors suitable for subsequent development can be used.

The process is only applicable to viscose-cotton goods. Cuprammonium and nitro rayons, although regenerated cellulose as is viscose, behave quite differently from viscose, upon being subjected to this treatment. A process by which fabrics containing cuprammonium and viscose rayons can be cross-dyed, and a method of manufacture of fabrics composed of these two fibers are other inventions of this chemist. He is still actively engaged in further studies relative to the possibilities of extending the viscose-cotton dyeing process to include vat colors.

Coating with Cellulose Acetate

English patent No. 271,425 describes a method of applying coatings of cellulose acetate or other cellulose derivatives to fabrics or other bases. The procedure consists of first coating a polished, matte, or other surface with the solution of cellulose ester, and drying the film so produced. The film, still on the surface upon which it was coated, is next moistened with a solvent or with more of the ester solution and is pressed upon the fabric or other base. The base and attached film are finally stripped from the surface upon which the film was originally formed. Dyes, fillers, metal powders, etc., may be incorporated with the cellulose ester solution for decorative effects. Other ornamental effects may be produced by using patterned surfaces, either plates or engraved drums being used.

Care in Use of Oils

Many difficulties have been encountered in the dyeing of rayon in the skein, due to the use of improper conditioning oils. Some oils will always give trouble by forming a curd with the soap or sulphonated oil used as a boil-off or dye assistant. The curds attach themselves to the fiber, and, when dried on it, cause bad winding, breakage, and undue waste.

Rayon-Striped Goods

Trouble is frequently encountered in the bleaching, dyeing, printing, and finishing of cotton goods containing rayon stripes or rayon filling. In the following brief discussions of these operations, stress is laid upon the mechanical side, and suggestions which may be of value to the textile man engaged in work on goods of this nature are included.

Rigid inspection of all goods to be processed should be made in the gray room in order to avoid trouble and claims if fibers are broken in processing. Frequently, through imperfect tension in weaving, the rayon stripes will be taut after going through the bleaching process, and this cockles the goods. Again, the rayon may be broken in places so that when the goods arrive in the white room they will be found defective, and, unless the plant has reported the goods defective in the gray, the customer will contend that the defects were caused in processing. The sewing operation is done on three-needle or rotary sewing machines similar to other goods, and strong light thread should be used. Rayon-striped goods are run over a gas singer, but rayon-filled goods do not go through the singeing operation.

Bleaching in jigs is considered by some to be the safest method on all classes of these goods, and this method, although slow, is preferred especially when dyed grounds are ordered. It is of great advantage to have friction clutches in place of jaw clutches on jigs for this work. The friction clutches are much easier on the goods, and one of the important things to remember is to keep the tension at a minimum, especially in rayon-striped goods. These goods will usually show a loss in processing, so it is important to have a working loss allowance when taking orders from converters.

Bleaching is also done in rotary machines, and these machines are exceptionally easy on the rayon; but this process requires other operations. After the goods are bleached they have to be opened and shelled up for the operations which follow.

Bleaching in slack washers has been done in many plants successfully. This method is suitable for rayon-striped and straight-filled goods, and has the advantage of being continuous where a sufficient number of these machines are in range. The goods are handled in rope form, and after bleaching are extracted and then opened up and shelled for dyeing, or are dried if goods are to be white-ground prints. This method of handling these goods is not suitable for rayon-filled sateens. The latter type of goods should not be put in rope form, especially if they are to be dyed, as any scrimps will show light after dyeing.

Start Goods Damp

Tenters are used extensively for drying the goods, and the goods must be damp on entering the machines, or damaged selvages will result. This operation is necessary for plain-shade goods or for goods which are to be printed, as they must be brought to width.

Printing the goods does not present any very difficult problem, but spiral openers must not be used and the goods must come to the machines free from scrimps, or seconds will result. Gums used in the color pastes must be soft and easily soluble in the

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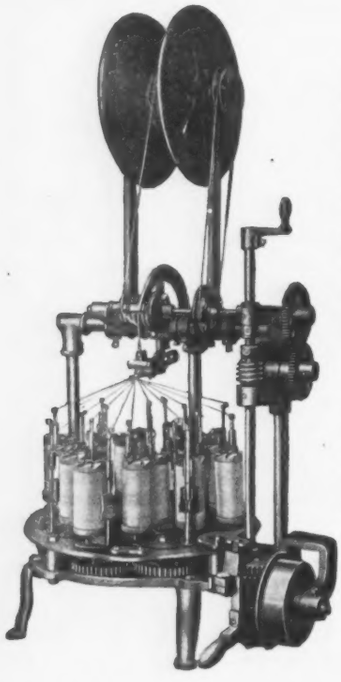

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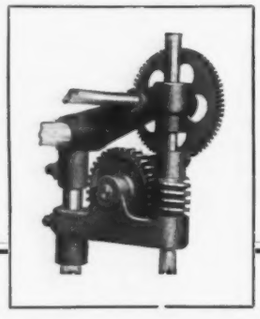

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liquors of the following processes. The ageing of rayon-filled or rayon-striped goods is done the same as regular vat-color cotton goods. The tension on the goods has to be watched as in all other processes with these goods.

Soaping should be done in open soapers to secure the best results. It is advisable to eliminate the beaters on these machines. Many plants have removed these even for regular cotton goods, so where this has been done no trouble will be experienced.

Tentering follows the soaping operation on printed goods, and the solutions must be suitable in the mangle to insure a soft finish. The goods are tentered to width, and it has been found of benefit to have the final 30 ft. of the tenter frame brought in from ⅛ to ¼ of an inch.

After tentering, the goods are run through hooking machines, and the regular machines are used for this purpose. The goods are then folded as required and are given a rigid inspection at the same time. Some of these goods are given a light calendering, and, when this is done, the calender rolls should be of paper with a very smooth face.

Difficulties Encountered in Attempting to Institute a Definite Raw Silk Quality Standard

Strength Not Indication of Quality — Fixed Property Such as Evenness Is Perhaps Solution

By Converter

WE have heard a great deal recently about the desirability of establishing a quality standard for raw silk—a standard by which it will be possible to eliminate the human element in grading silk. In the accompanying article, the author discusses some of the difficulties which have been met when attempts have been made to set up such a standard, and gives his opinion that quality is correctly indicated by evenness, at the same time noting the necessity for giving evenness a basically correct definition.

EVER since silk manufacturing became an industry, attempts have been made to ascertain the suitability of the raw material to a more accurate degree than mere eyesight permitted. To know "quality" to any degree of perfection means to be able to select the best at the most advantageous price.

Of late, many new devices have been suggested and experimented with to the end of arriving at definite —too definite—results; that is, more definite than is at all possible. One of the most to-the-point comments made in connection with raw-silk classification appears to be the statement made by Mr. K. Isome of the Central Association for the Raw Silk Industry of Japan, while in New York, to the effect that grading as at present applied is within too narrow limits, meaning that it is impossible to ascertain, by any test-method whatever, quality differences proportionate to such small price differences as five cents per pound.

Silk Is Farm Product

It seems that most all classification attempts are undertaken without due thought to the underlying conditions. Raw silk to the extent of 70% or more is a farm product; and, as farming in Japan is mostly on a very small unit scale, uniformity in the quality of cocoons is seriously lacking.

The annual production of Japan raw silk (500,000 bales) is the product of some two million farmers, who rear the cocoons. This amounts to an output of one-quarter of one bale of silk per farmer, so that, on an average, every 10-bale lot of raw silk is made up of 40 lots of cocoons, each more or less different from the other. Even though such a lot of 10 bales of raw silk might have been sold to and received by the American manufacturer under one label or chop-ticket, it is quite possible that even the reeling might have been done by a number of reeling factories belonging to one group but operating independently of each other except as to the operation of skeining the reeled silk in a central or group rereeling factory.

How, under those conditions, could any fixed or fast rule for testing the correct average quality of the silk be established? The more uniform the composition of a lot of silk, the more accurately will a test divulge the actual quality; and the more diversified the composition of a lot of silk, the greater the danger and probability that a test on a fast rule will be unreliable.

The Frenchman Talabot first conceived the necessity of testing raw silk with respect to value as to quantity, having realized the possibility of great fluctuations in weight due to the capacity of the raw silk to readily absorb moisture. Since then, conditioning has become a routine practice; but still there are people yet unaware that even conditioning tests are on a flexible, not a fast, rule.

Test for Conditioning

A test for conditioning is conducted on three parts of representative samples as uniform in weight as possible. Two parts are simultaneously subjected to the moisture test; and, when the moisture content of the two tests remains within a certain limit of discrepancy, the test is considered correct, and the results of the two are averaged up and applied to the lot to which the test refers. But, if the moisture content of the two parts tested proves in excess of the fixed limit for discrepancy, the third parcel is tested and the result of the three tests constitutes the average to be applied to the lot under consideration.

Now, that being so, and it being true that there are as many chances for variations in the test for quality (due either to large variation in the quality, to the smallness of the test portions, or to both), it should at a glance appear logical to apply to quality tests the same precautions as to moisture tests—a flexible rule. Such a procedure is followed in certain quarters for quality tests, but not generally. Where such policy is pursued, it is extended even further than as applied to the conditioning test. The tests are continued or extended until discrepancies in the findings of the individual tests prove the reasonable accuracy of the average of the tests combined. Silk requiring many test-units to bring about such reasonable constancy in results invariably proves to be silk of poor evenness, and vice versa.

It is not the purpose here to explain this testing method. Mention of it is made merely in substantiation of Mr. Isome's intimation that testing for the quality of raw silk is at best insufficiently accurate to permit of quality determination to more than approximate value definition. Any attempt at quality determination proportionate to price differences of but two and one-half and five cents per pound are futile, and are open to the possibility of grades overlapping each other. Mr. Isome did not directly say so, but by reading between the lines it is clearly seen that he has little faith in testing methods of an indirect character or nature. At any rate, he fails to perceive the necessary accuracy in the seri-plane test when it is used as an evenness indicator.

It appears safe to say that there are but three qualities of raw silk:

1—Silk from high-grade cocoons, reeled with the greatest possible skill and best intentions.

2—(a) Silk from high-grade cocoons, reeled with the intention of profits from quantity output; that is, reeled with less care for quality. (b) Silk from inferior cocoons, reeled with the utmost care.

3—Silk from inferior cocoons, reeled with poor labor or careless workmanship.

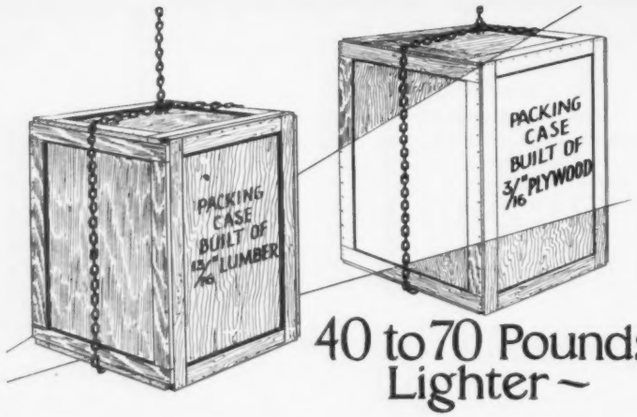
A subdivision of these fundamental qualities into a greater number of grades should by all means be done in such a manner as to prevent the possibility of an overlapping of grades during testing, since even the most rigorous test method can only bring results to approximate the average quality of the lot tested. In his endeavor to pick the best silk at the lowest price, the silk buyer seems altogether too ready to lend credence to untried testing methods. No testing method should be applied and become binding for a second party except after its merits have been proved or are self-evident.

Fixed and Variable Conditions

There are two conditions that should be remembered in connection with raw-silk testing. Evenness and cleanness of thread remain fixed, whereas tensile strength and elasticity (ductility) are fluctuating conditions. To be more explicit, evenness and cleanness when once established remain what they are, but strength and elasticity are subject to change—always a change for the worse—with age or upon storing. As a general rule, except in case of an accident, it is safe to be guided by the fact that evenness (that is, the degree of evenness) is proportionate to quality in general, because both intrinsic quality of stock and quality of workmanship are truly reflected in the degree of evenness.

In absence of a more accurate indicator, quality based upon evenness is a better guarantee of full value than is quality based upon any other consideration. Evenness, moreover, is a quality consideration for which the means of testing (sizing test) are more accurate and dependable than the methods applied in any other test, with the exception perhaps of the test for elasticity.

Testing for elasticity presents no great difficulties; but the same cannot be said of testing for strength. Although these two, in serimeter tests, are executed in one operation, the respective results are not on a par with



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regard to accuracy. The elasticity record furnished by the apparatus is continuous, and, if it were possible to scale the range to terms of thousands of millimeters, the machine would correctly register elongation of the thread even to these small units; but with respect to the strength test, the machine or apparatus does not operate with such accuracy.

In the case of a 13/15 denier silk with a possible maximum average resistance of 56 gms., it is quite possible for the apparatus to register but 50 or thereabouts, because the recording takes place in what might be called "jumps." This is explained by the fact that in no test case does the serimeter show a gradual increase in weights from say 0 to 56 gms., but that it does show at one point say 6 gms., then 10, then 15, then 21, and so on to 56 gms. Thus it may happen that when the thread is elongated to 18% of its original length, the strength indicator will register 48 gms., but, while elongation may continue to 20 or more than 20%, the difference in the pull at 18 and at 20% (the breaking point, may not be sufficient to cause a forward movement of the strength or weight indicator lever. Hence the lever is apt to remain at 48, while the elongation passes from 18 to 20% (or even more), causing a disparity indicative of the lesser accuracy of the serimeter in registering strength as compared with registering elongation.

This inaccuracy might matter little as far as the test for strength is concerned; but when it is attempted to use the strength test as an evenness test, it may matter a great deal. The idea that strength and strength fluctuations are on a par with size and size fluctuations and that strength tests might be used as an indication of evenness is a pardonable error, because to all superficial appearances the deduction is quite logical. A thorough examination promptly reveals the fact that a weak spot in a thread is not necessarily caused by a proportionate size defect, but is often due to an imperfect construction of the thread, such as a loop, which is quite unrelated to size proper. Realization of this most likely is the reason why the Raw Silk Classification Committee of the silk association, in its second report, dropped serimeter tests as evenness indicators.

Special Machines

When the committee incorporated the serimeter (strength) test in the list of evenness indicators, it did not establish a precedent. As far back as 1880, an Italian silk expert conceived the idea of determining evenness of a silk thread from a test showing the action of the thread under tension—tension which was not sufficient to break the thread. For this purpose, a machine was constructed. This machine is pictured and explained in Vol. I of *Die Seide*, by Silbermann of Crefeld (Clifford & Lawton, New York). For various reasons, the work did not progress further than experimental trials. Recently, the theory was again followed in the construction of Messrs. Tanahashi's and Harada's machines, demonstrated in New York and referred to in a number of American trade papers. While Mr. Harada's machine is different from the Italian's only as to construction, Mr. Tanahashi's actually is on the principle of breaking (strength) test; but the fundamental idea is the same for all three, being the attempt at extracting evenness from strength and strength fluctuations.

All these attempts are only too evident proofs of the importance attached to evenness of the thread, and further emphasize the desirability for designating evenness by an accurate definition. For that reason we can easily explain the many other theories tried successfully or unsuccessfully, as, for instance, the gage test, which has been used in European spun-silk factories for a long time.

Seriplane Test

The mirror (seriplane) test, now much heard of in connection with testing for evenness properties, has long been used by the European manufacturer as a means of obtaining a better idea of the cleanness of silk, and has been in use in America since 1900, as an adjunct to the means of determining the cleanness. It is admitted, of course, that the apparatus now in use is more practical and more effective in construction; but, as a means for indicating evenness, the device embodies the drawback of permitting expression of the result in an indefinite form.

If the trade, with so many differing ideas and conceptions prevailing, should become undecided as to what tests to apply, it is easily excusable. Particularly is this true when extreme theories go so far as to attempt to fasten evenness to a test of cohesion, when cohesion becomes non-existent from the moment the silk is soaked and thrown.

When it is realized how tremendously irregular raw silk is at the best, it ought to be apparent at a glance that the suggestion of measuring the evenness by measuring diameters or circumferences is like attempting to find the proverbial needle in the haystack. Even if means permitting the measuring of diameters with sufficient accuracy were available, the task of arriving at figures for a lot of silk on the strength of such a small amount for representation is insurmountable, and is quite correctly questioned by Mr. Isome, who finds that the testing of 1600 m. per seriplane test for a lot of 10 bales of silk is altogether too small a proportion.

All these attempts at measuring the evenness of silk have one defect in common—attempting to get at size imperfections in detail by using smaller and smaller units for the test. By the nature of things, no better results are possible than by determining the imperfections through testing larger units. It is felt by the writer that this will be shown before long to be the solution.

Encourage Research

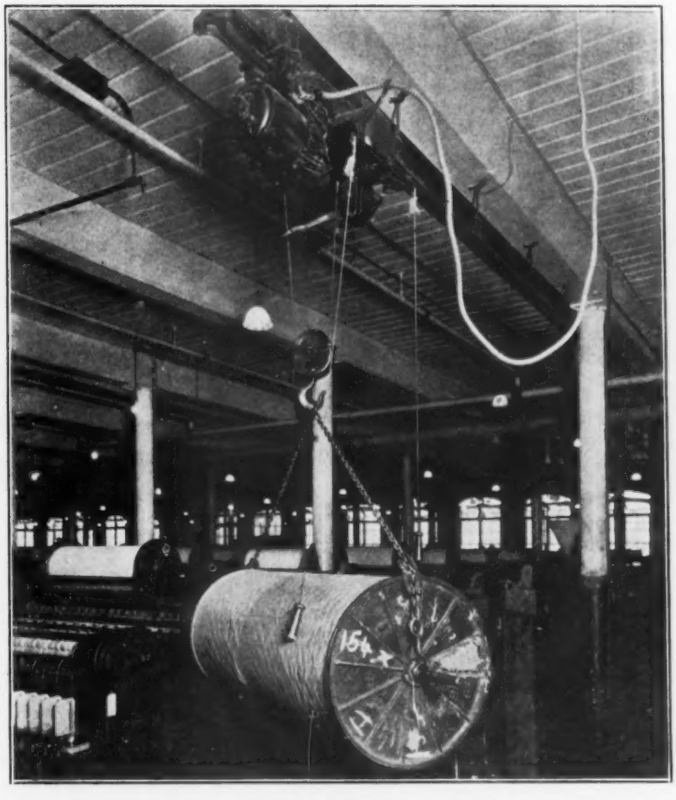
Certainly research work must be encouraged; but to let unproved theories complicate the manufacturers' problems is liable to do harm. When it is stated that silk men in general have always mistaken ductility of silk for elasticity, whereas the two are quite and distinctly different, the accusation is but partly correct, because the majority of silk men have never been unaware of the fact that what they termed elasticity was not elasticity as illustrated by the elasticity inherent to a rubber band. They knew well enough that a silk thread when elongated did not return to the original length when relieved of tension, but returned only a little way and remained extended for the balance. But, when the claim is made that silk would be better with either no ductility at all or with elasticity of the kind exhibited by the rubber band, the converter of raw silk might be led to his doom by following the mistaken advice and trying to pick out lots of silk wherein ductility (elongating capacity) was at a minimum.

In view of the great irregularity in size of silk, it might be said that nature wisely stepped in and offset that disadvantage to some extent by supplying the silk thread with ductility rather than elasticity, so as to permit the weaving of smooth fabrics. Nature, it seems, realized that silk, with its inherent unevenness in size, if given an elasticity on a par with rubber, would only allow for the production of fabrics comparable in appearance with a crepe-de-chine with the filling yarn varying in twist from 20 to 100 turns per inch.

Until the time comes when raw silk can be produced with absolute uniformity in size, let us go on in the conviction that it is best that our silk have sufficient a ductility (elongating capacity) to be able to "give" where "give" in the course of manufacturing is indispensable, and small enough a degree of elasticity to "stay put" when in a smoothly appearing fabric it is indispensable that the thread "stay put."

Evenness of the raw silk thread cannot possibly be better than the evenness of the cocoon thread from which it is made, except insofar as it depends upon the skill and endeavor of the reeling girls. Since uniformity in size of the cocoon thread is proportionate to, or dependent upon, quality in general, it is perfectly safe to accept the degree of evenness of the raw silk as the degree of quality. That being so, let us concentrate our efforts to the end of giving evenness a basically correct definition and simplifying quality classification.

HANDLING TINY SPOOLS



Of course we are not justified in calling the beam depicted in the above photograph a tiny spool, but by the method illustrated it can be handled almost as expeditiously. The yarn is to be drawn from the beam, plied, and twisted

Crescent Dyeing & Finishing Co., Paterson, N. J. The court has approved the acceptance of Anthony Nazzaro's offer to purchase the assets of the Crescent company, exclusive of accounts receivable, for $5,000 over and above liens in the aggregate of $75,420.

At Last

A Clip

NOTE PICKER STICK & HOLD UP STRAP ARE CLAMPED INDEPENDENTLY
NOTE INDENTATION - HOLD UP STRAP CAN NOT FALL OUT.
WHEN CLAMPING, BE SURE SLIDING CLAMP IS SOLID AGAINST END OF SLOT.
BY LOOSENING CLAMP, NUTS CAN BE ADJUSTED UP OR DOWN ON PICKER STICK.

that eliminates trouble-some screws in the picker stick

A NEW clip for your hold-up straps. A clip that grips them immovable...in the correct position for the lug straps. A clip that can't injure your picker sticks—that's the important part. It can't injure them because it doesn't require weakening holes to be drilled into the wood....

Merely clamp on this Smith and Mann clip...tighten up the two bolts. In reality, it adds strength to the picker sticks—and it keeps the split ones buzzing on the looms.

As for time consumed in installing and adjusting—there's no outstepping an S & M. And it's just as quick and simple to replace worn hold-up straps!

Let us send you additional information, names of representative users. ***Write us.***

Agents Wanted

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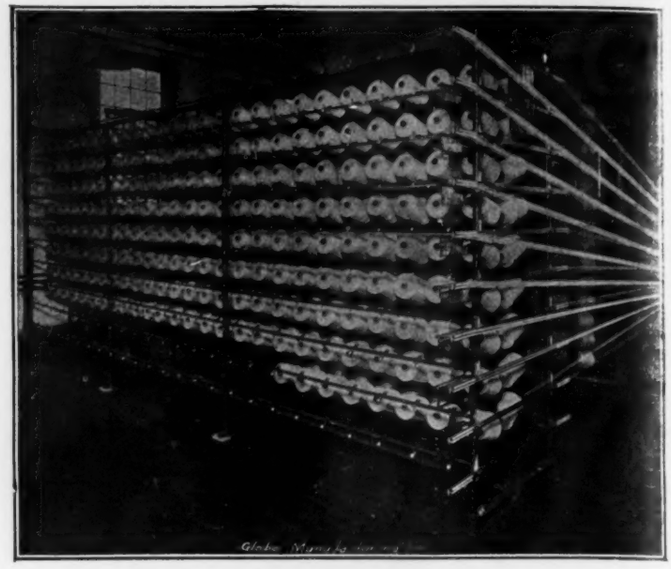
914-18 West York Street
Philadelphia, Pa.

Smith & Mann Clips



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OVER END CREEL

The tube does not revolve, this feature increases production and decreases knots.
Easy to creel.
Another fine feature is a simple but effective tension device.
Electric stop motion optional.
Repeat orders prove its success.

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The Finish That Saves

Here at "Southern" we pay particular attention to the finish of the dents in our loom reeds. The result is better "looming" for our customers—fewer interruptions due to breakage—a better woven product.

The next time you're in the market for loom reeds get the "Southern" kind. They measure up to the most exacting standards. Write for quotations.

Southern Loom-Reed Manufacturing Co.
Manufacturers and General Overhauling of
COTTON MILL REEDS AND COMBS
OUR REED IS A FRIEND TO YOUR SHUTTLE
Greenville, S. C. Campobello, S. C.

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"SOUTHERN"

SOUTHERN SOUTHERN SOUTHERN

An unprotected bobbin A modern guarded bobbin

Up to date Bobbins!

Bring your bobbins up to date—put on Draper metal bushings—then note your savings. Keep pace with the Automatic Loom. Demand ***protected*** bobbins.

The Shield of Protection

TEXTILE SHIELD CO.
Metal Stampings & Screw Machine Products
LAWRENCE, MASS.

Electric Motor Frames

Standardization of Certain Dimensions Sought

Standardization of certain important dimensions governing the interchangeability of electric motors of different makes has made a forward step, according to an announcement by the American Engineering Standards Committee, with the recent acceptance by two prominent organizations, the American Society of Mechanical Engineers and the National Electrical Manufacturers Association, of joint leadership in the development of such standards.

Machinery everywhere is more and more becoming motorized, being driven by self-contained electric motors or adapted to easy application of motor drive upon installation. However, owing to variation of sizes among different makes, specific and detailed information is often necessary with each new application, and in some cases significant changes in design have been required to accommodate some particular make of motor. Sometimes, as in the case of breakdown of equipment in service, serious inconvenience has been caused, due to the impracticability of using a motor of any other make than the one originally supplied.

The National Machine Tool Builders Association, who found diversity in motor dimensions a problem of particular difficulty in their industry, filed the original request to have the subject taken up by the American Engineering Standards Committee. A conference, to which all parties interested in this subject were invited, was called by the latter body, at which the following scope for the work was recommended: (a) a series of standard dimensions for the distance from the base to center of shaft (shaft height); (b) a series of standard distances between bolt holes, at right angles to the shaft; (c) a series of standard distances between bolt holes, parallel to shaft; (d) certain definite combinations of a shaft height with any or both of the distances between bolt holes as mentioned under *b* and *c*; and (e) maximum diameter and length of the motor.

Upon recommendation by a special committee appointed by the conference, the National Electrical Manufacturers Association and the American Society of Mechanical Engineers were appointed joint sponsors for the project. These bodies are now proceeding to the organization of a sectional committee to take up the technical work.

Motors Applied to Spinning

(*Continued from page* 157)

tween spinning frame, controller, and motor devices actuated thereby.

Types of Motors

Most of the efforts to handle this drive have been confined to a.c. motors. The a.c. motors used principally abroad and to some extent in this country have been either single-phase or three-phase of the brush-shifting type and having what may be broadly described as series characteristics. Examples of these that may be noted are the 3-phase motors of the A. E. G. Co., the Siemens-Schuckert Co., and the Brown-Boveri, all of which are in principle exactly like the General Electric type BTS; the Brown Boveri Co. single-phase "Deri" type of repulsion motor, and the General Electric type BSS. In all these types an increase in load produces a substantial drop in speed, as they are all broadly characterized by the fact that the working flux is excited by the load current itself. With these types the speed tends to increase when the frequency drops, and vice versa; but in the higher-speed ranges the speed is nearly proportional to the voltage, while at lower ranges the speed varies much more than in proportion to the voltage.

There are many successful installations both in this country and abroad, but the full possibilities cannot be obtained. Therefore, of late a careful investigation has been made of the possibilities of the brush-shifting motor of shunt characteristics. This type of motor in addition to being suited to variable-speed spinning, can be adapted to many other services where good regulation, smooth control of speed, etc., are required. It is, for example, useful when the tendency of wide cyclical changes in load to regulate the speed (as with knitting machines which are used to operate at more than one speed, swing-motion tenters, etc.) prevents obtaining the full usefulness from a type M motor with resistance, series, brush-shifting, etc.

Preparing Jacquard Harnesses

Care in Varnishing—Drying Must Be Gradual—Lengthening Their Life

*Translated from the German by Kurt E. Feustel**

IN order to keep the jacquard harness in perfect working order, and make it last as long as possible, it is necessary to varnish the harness cords after they have been tied together. When doing this, attention must be paid to the following matters:

(1) Each cord should be varnished in such a way that the varnish not only penetrates the whole cord, but also gives it a perfectly smooth coating.

(2) Each cord should be varnished not only at the place of friction in the comber board, but throughout its entire length, because harnesses treated only in part will twist with changes in atmosphere.

(3) The cords should be varnished with great care and properly dried.

Should Last Ten Years

The greater the care with which this work is done, the better the harness will work, and the longer it will last. Assuming that the cords are made of good material, a harness should last at least ten years, provided good care is taken of it, and good varnish, comber boards, etc., are used.

If the varnish is made at the plant, great care should be taken in mixing it, as it should be neither too thick, too thin, too sticky, nor resinous. If it is bought ready-made, care should be used in its selection, as there are a great many inferior grades upon the market. The best sources are always, of course, reputable concerns dealing in weave-room supplies. These varnishes usually consist of linseed oil varnish with the addition of chemical smoothing agents, and are more fluid and less resinous and sticky than pure linseed oil varnish. They are ready for use in this form.

The most common method of varnishing is to treat each individual cord with a brush or rag which has been soaked in the varnish. It is necessary to see that all the cords are covered uniformly with the varnish. Drying, a very important factor, must be done in a large room and only with the aid of natural warmth and circulation.

A great mistake is made if, for the purpose of quicker drying, artificial heat is applied, such as hanging the harnesses up to dry over a heating apparatus, or in a room in which there is great heat but little or no air circulation. If this is done, as soon as the harnesses are brought back to the weave-room, where there is always a certain degree of humidity, the cords will stick and twist together. The cords may also become brittle and wear out after short usage. The latter damage usually occurs when there is no natural air current while the cords are drying, for it is only this current of air which enables the varnish to penetrate the cords and give them the required smooth and pliable handle, and great durability and strength. Proper and careful drying, even though it may take longer, is always best in the long run, since artificial methods of drying, although they may permit quicker use of the harnesses, will necessitate replacement in a shorter length of time.

When Needed Quickly

If a harness is needed quickly, the tied groups of harness cords are put into a container and covered with the varnish, which should be stirred frequently. After four to six hours, the cords will be thoroughly penetrated and should be taken from the container and hung directly over it to drain. When sufficiently drained, they should be throughly extracted and then hung in an open room to dry. They will be ready for use the next day at the latest and can then be hung in the loom and grouped. If this method of varnishing is followed out with reasonable care, the harnesses will be in good condition and will have a normal life.

Constant care in the loom is, of course, essential in order to keep the harnesses in good condition as long as possible. Torn cords especially should be tied up immediately and then replaced during a stoppage of the loom; rough holes in the comber board should be polished with emery and then dusted with talcum or soapstone. After a period of time, it is also advisable to revarnish the cords at the places which pass through the comber boards.

Never Varnish Afterward

It is never advisable to varnish the harness after leveling and tying up, as a harness which has been leveled and tied up in the raw state and then varnished shows differences in the height of the heddles. The cord turns to the right or left and is more easily affected by atmospheric changes than one which has been well varnished and dried beforehand.

If the harnesses receive correct and expert care from the beginning, the time and effort expended will pay for itself in a very short while, especially in decreased replacement of the cords, increased life of the harnesses, less stoppage of the loom, and corresponding increase in production—taking for granted, of course, that a correspondingly good quality of cording material, comber boards, lingos, etc., is used.

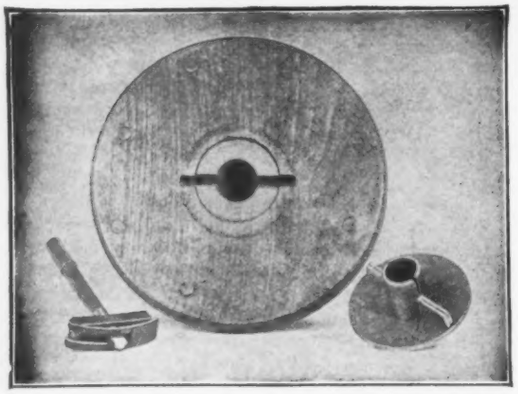
* With James W. Cox, Jr., 320 Broadway, New York.

Lawrence Fourth Industrial City of Massachusetts

LAWRENCE, MASS.—State data collated for the year 1926, indicates that Lawrence's 11 woolen and worsted establishments turned out a product valued at $118,291,088, and used materials and stock valued at $77,586,416. Lawrence woolen and worsted plants paid in wages during 1926 the sum of $21,576,385 and employed 18,905. The woolen and worsted product was 67½% of the value of all goods made here in the year. The report shows further that 70.6% of the total of persons employed in the various industries here, are engaged in the making of woolens and worsteds.

Six cotton establishments with a stock and materials consumption for the year of $4,524,097 turned out a product valued at $7,197,106, employing 1,791 wage earners to whom was paid for the year $1,913,366.

According to the product value as shown in the 1926 report of the division of statistics of the State, Lawrence rates fourth place as an industrial center, led by Boston, Worcester and Cambridge. Of the total of 173 establishments embracing in addition to textiles, foundry and machine shop products textile machinery, foods and beverages and various minor industries, the total used stock value of 1926 was $113,930,315. The total product value was $175,251,666 in the creation of which 26,777 wage earners were employed who received in their pay envelopes a total of $31,400,308.



A Practical Jack Spool

The Head Cannot Turn or Fly Off

Notice the construction of the washer. The feather fits tightly into a slot in the head and barrel preventing the head from turning or coming loose.

There are no threads on tennon to strip; if the head breaks leaves good end for new heads. The head is three ply hardwood—guarantees strength and freedom from warping, splitting and breakage.

Long tapered stud fitted to tapered hole prevents gudgeon from wearing hole and becoming loose.

Extra long oblong nut cannot be drawn into wood or become loose.

Spring lock keeps gudgeon tight.

Write today for trial proposition.

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THE SHUTTLE PEOPLE

Constant Test
Proves
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ALSO HEDDLES AND HEDDLE FRAMES

The J. H. Williams Co.
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FOR MORE THAN FIFTY YEARS

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LOOM REEDS

Sliding Hook and Double Bar Heddle Frames

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Walker Manufacturing Company

ESTABLISHED 1875

Atlantic and Ruth Streets.

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See also CONSOLIDATED TEXTILE CATALOG

Southern Office: 101 Augusta St., Greenville, S. C.

QUESTIONS AND ANSWERS

Service on Mill Problems and Correspondence With Readers

Moisture and Boil-Off Percentages

Technical Editor:

I would like to have you figure out the following examples in a clear manner for me. I would like to know how to find the moisture percentage, and also whether there is a loss or gain in silk. If you could explain in a clear and simple manner, I would certainly appreciate it.

Bale, 125 lbs. net weight.

Test No. 1

366.9 weight of six raw skeins
328.2 bone dry—conditioning oven test
328.2 weight after an additional 15 min.
366
328

38 grams difference

Test No. 2

356.9 weight of six raw skeins
328.0 bone dry weight, conditioning oven test
328.0 weight after an additional 15 min.
356
328

28 grams difference

Boil-off Test

181.7 weight of 20 skeins of 1,000 yds. each
164.25 bone dry weight

Conditioning Oven Test after Boil-off

124.1
124.1

(6237)

We assume from the information given above that the inquirer is making his own tests on silk for both boil-off and moisture, and might mention that these tests, unless executed by the U. S. Testing Co., are not official and will not be accepted as a basis of claim by any reputable silk house.

If testing is done in a private laboratory, it is an excellent thing as a means of control, and if shortages are found to exist the bales could then be sent out to the U. S. Testing Co. for official verification.

The first item mentioned of 125 lbs., net weight, we assume is the actual absolute net weight of the silk, free of all tare of every kind and description, and is not either invoiced or billed weight, otherwise the test would not be correct. The invoice or charged weight of a bale is not used in conditioning for moisture and boil-off and has no bearing whatever upon the result, except when the final figures are arrived at to see if there is an overcharge.

We will assume that the weight given as 125 lbs. is the actual net weight of the silk as weighed by the laboratory. It is further naturally assumed that the entire bale contains the same amount of moisture. We pick out, as stated in the question, six skeins which weigh 366.9 gms. and which are relatively in the same condition as the rest of the bale. These six raw skeins are then put into the conditioning oven and the moisture removed, and they drop to 328.2 gms., therefore our example is as follows:

If 366.9 gms. dry down to a bone-dry weight of 328.2 gms., then 125 lbs. by proportion would dry down to 111.82. Adding on 11% as the established regain for moisture, which amounts to 12.30, we arrive at a conditioned weight of 124.12. If the silk was bought on an 11 plus 2 moisture basis, then to this must be added an additional 2%, bringing the weight to 126.60. If the invoice weight is found to exceed this, the customer would be entitled to an allowance.

Test No. 2 should be computed by exactly the same method, and should show an even drier condition of the silk, inasmuch as there was not as much moisture in the silk in Test No. 2 as in Test No. 1. On the boil-off test we assume that the item 164.25 is grams, and is the bone-dry weight before boiling off. We further assume that the figure 124.1 is the bone-dry weight in grams after boil-off, therefore we find a loss on 164.25 of 40.15, due to boil-off. Our example resolves itself into the following: We lose a portion of weight due to boil-off and this is 40.15÷164.25, or 24.44%, which would be the boil-off.

* * *

Shark's Tooth and Tick Weave

Technical Editor:

We have seen reference to the shark's tooth weave and the tick weave. The writer confesses ignorance of such weaves and will appreciate enlightenment through your Questions and Answers Department. (6245)

We have never heard of a weave termed shark's tooth. The tick weave may be a 2 up 1 down twill, or a 3 up 1 down twill, such as is used in making ticking. We have not heard these weaves called tick weaves, but persons dealing with ticking might naturally call them tick weaves.

A designer of wide experience states that he never has heard of such weaves as the shark's tooth or the tick weave.

The head of a designing department of a leading textile school replies as follows: The terms "shark's tooth weave" and "tick weave" are unknown to us, and we have not been able to get any enlightenment from other sources. However, we talk about a "shark-skin effect" in a fabric. This effect is obtained on a 2 up and 2 down twill by using 1 black and 1 white thread alternately in the warp, and also in the filling. We presume the tick weave applies to ticking, but as there are a number of different weaves used in tickings, such as plain, satin, or twill weaves, we are at a loss to point out the specific weave the inquirer might refer to.

* * *

Stains on Dyed Cotton Goods

Technical Editor:

We are submitting a sample of cloth showing stains. We would thank you to inform us as to the nature of them. These goods are simply taken from the bale and dyed through a three-bowl padding machine, direct colors, and a little Oleine oil. While the marks seem to be of uniform distance, we are certain that these are not imprints from our bowl, as they are 12 in. in diameter and these marks happen nearly three times in one turn of the bowl. We would thank you to give this matter your most urgent attention. (6250)

We have examined the cloth showing repeat stains, and are of the opinion that these stains are not due to faulty dyeing. If a sample of the gray cloth were available, it would be comparatively easy to determine the exact nature of the stains. After cloth has been dyed, however, it is more difficult to ascertain the cause of stains which are not actually dyeing faults. For this reason it is the practice in some bleacheries to keep on file a sample from each lot of gray goods; in the event that any defects are encountered in processing the goods the reference sample is often of value in determining whether the gray mill or the finishing plant is at fault.

In the sample submitted, the repeat stains are similar in appearance to those which are produced by defective padder rolls; but, as the inquirer has stated, the stains are too close together to be accounted for in this manner. Upon treating the cloth with a weak chemic solution and then washing, while the color is discharged, traces of the stain still remain. These residual stains do not appear to be color stains, but have the appearance of oil stains. It is our opinion, therefore, that the stains in the sample at hand were caused not through any fault in dyeing, but because of oil stains in the gray goods. If the inquirer has not been having trouble of this nature on any other lots of cloth than the one in question, it would corroborate the opinion that the fault is in the gray goods and not in the dyeing.

* * *

Loom Motors

Technical Editor:

Can you give us any information on individual loom motors for Crompton & Knowles worsted automatic, 4 x 4 looms, as regards horsepower, speed, design, and methods of attachment. We are using 1, 1½ and 1¾ h.p. squirrel cage, open and enclosed motors, and are constantly burning bearings and ruining gears and pinions on all except our most recent motors. All run at approximately 1750 r.p.m. and are geared direct to the loom drive. What in your estimation is the proper motor to use and the best means of using and caring for it? (6238)

In regard to constantly burning of bearings and ruining gears and pinions, we would suspect that general purpose motors have been used. Experience has proved that special design motors with waste packed bearing construction give satisfactory motor application to looms. Waste packed bearings are preferable for their cleanliness and less maintenance cost.

On account of the severe nature of the loom load, consisting of repeated shocks reflected back on the gearing for every pick of the loom, oil-tempered steel pinions are recommended. Pinions of this type stand loom service for many years if properly installed. Great care should be taken

TEXTILE WORLD.

Gentlemen.—I certainly wish to thank you for the trouble you have taken with regard to my questions re ———— (addressed to your New York Office by the writer).

I shall take an early opportunity of working out the formula as per your instructions and believe I shall arrive at exactly what I want.

In the event of my failing to do so through lack of experience I shall take the liberty of approaching you again.

Again thanking you, I am,

Yours very truly,

V. E. ADAMS.

Narrow Fabric Weaving and Dyeing, Ltd., Galt, Ontario.

In this department, we undertake to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to TEXTILE WORLD. Inquiries should give the fullest information and data possible. In the case of damage to material, a sample should be sent. In this way answers can be given which will be of immediate technical value to the correspondent and to others in the same line. Inquiries pertaining to textile processes, machinery improvements, methods of management, the markets, etc., are especially invited as well as any legitimate discussion on the views expressed. All inquiries must be accompanied by the name of the person inquiring, not for publication, but as an evidence of good faith. The identity of those seeking information on technical subjects will not be disclosed.

If the question is not of general interest to textile readers and involves expensive investigation, a charge covering the cost may be made, of which the inquirer will be advised before any expense is incurred.

Letters expressing opinions or voicing criticism will be signed by the correspondent's name unless the letter itself contains a request that the name be withheld.

For prompt service, technical inquiries should be sent directly to the Technical Editor, TEXTILE WORLD, 65 Franklin St., Boston, Mass.

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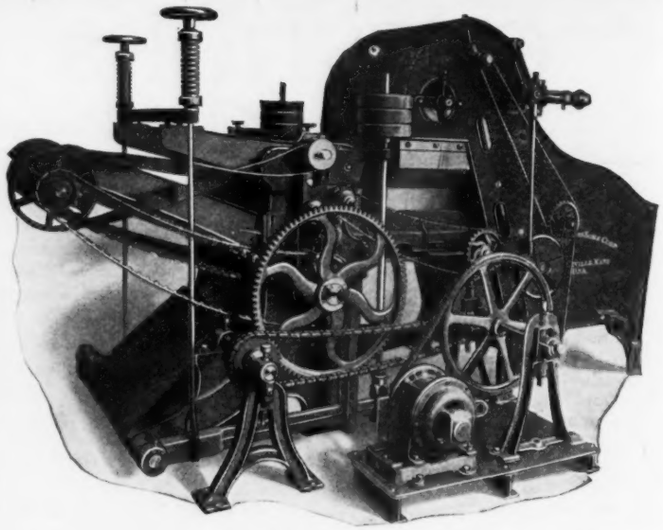
STYLE 60s

Widely used in textile mills

Strong reliable "lifetime" presses with 50 years experience back of them.

MINNICH MACHINE WKS., Landisville, Pa.



Use SQUEEZE ROLLS to remove excessive liquid from saturated wool or cotton before drying.

The CONTINUOUS AUTOMATIC EXTRACTOR is made in five widths and may now be had with direct motor attachment.

Circulars Number 143 *and Number* 146 *explain some of the advantages in this method of liquid removal from textile fibers.*

See also CONSOLIDATED TEXTILE CATALOG

C. G. SARGENT'S SONS CORP., Graniteville, Mass.

Builders of Wool Washing and Drying Machines

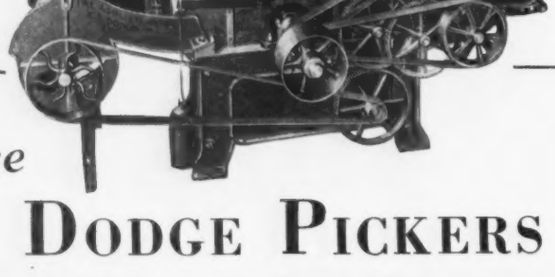
Reworking Cotton Rags —*easily, economically*

IT'S the over-shot condenser on the Dodge Picker that makes it so efficient, so economical in reworking cotton rags. Easily and efficiently this condenser collects the picked stock after it leaves the spear-pointed needles . . . then firmly condenses the loose, flying fibres . . . only to drop them in a lap on the floor below. . . .

There's no need of a fire-proof gauze room. For this Dodge practically eliminates any chance of combustion. Obviously it saves considerable floor space.

There's a Bit Attachment on this picker which returns all bits and flyings as they issue from the machine as the picked stock is in sight of operator at all times and could be seen at the start. Our catalog describes our line of pickers in detail. *Write for your copy.*

CHARLES S. DODGE
Established 1883
67 Payne Street
Lowell, Mass.



Use

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It is unnecessary to remind you that executives today are sparing no efforts in eliminating waste. The important point is that here is a practical way of making a real saving.

The Choquette Patent Waste Saver attached to any card reclaims half the material formerly wasted. It works independently—it is out of the way.

If you want more information, write.

H. C. GREENFIELD ENGINEERING CO.
28-34 Davis St., Dept. T HARRISON, N. J.

CHOQUETTE
PATENT WASTE SAVER

Questions and Answers—Continued

when installing motors to see that gear and pinion are in correct mesh, running on their pitch line; also the motor and gear shaft should be exactly parallel to permit even wear on full face of gear teeth.

Lubrication. New motors having waste packed bearings are shipped with the waste thoroughly soaked in oil. When installed, bearing housings should be filled with a good grade of lubricating oil and refilled every three months thereafter. It is good practice after a year's run to remove the waste and clean the bearing housings, and either supply new wool waste or use the original waste after it is thoroughly loosened up to overcome any matting or hardening of the waste material.

Motor Attachments. The loom manufacturers generally supply motor attachments to their looms for motor drive which are adjustable vertically; also horizontally to permit change in pinion size and obtain correct alignment of gearing.

Power. Power required by looms varies with the size and type of loom, kind of fabric woven, and speed of loom in picks per minute. The power demand is greater than its proportional increase in speed. More power is required to weave a heavier fabric than a light-weight fabric at the same speed.

Test results obtained on Crompton & Knowles worsted looms are as follows:

72-in. weaving light-weight worsted at 123 picks per minute, power required .80 h.p.

82-in. weaving medium-weight men's wear at 122 picks per minute, power required .83 h.p.

96-in. weaving heavy billiard cloth at 98 picks per minute, power required .95 h.p.

It is recommended to use 1 h.p. motor for any of the above drives.

The General Electric Co. recommend specially designed loom motors, totally enclosed, having waste packed bearings and tapered shaft with nut and lock washer; also designed to develop full load continuous within 40° rise. All motors have good speed regulation and high operating characteristics.

Oil-tempered steel pinions are supplied with the motors. Special control consisting of hand-operated switch including thermal overload protection is also furnished.

* * *

Inspecting Silk Goods

Technical Editor:

Kindly let us have your opinion as to the best method for skying raw silk pieces for imperfections, such as bar marks and uneven silk. At present we are skying pieces on measuring machines by a window. The pieces are between the window and the cloth inspector. Do you know of a better way of skying pieces, as we seem to be unable to see all the bar marks in the raw. (6239)

There is no better way of seeing imperfections than by the light of a window, or by a powerful electric light placed behind the goods. The inquirer complains that all imperfections are not noted by this method. It is true that everything cannot be seen, and a double inspection is the best method; that is, once against the light for such imperfections as will be shown by this method, and then the inspection table to catch such faults as do not show against the light. A capable inspector can so arrange his work that both of these operations can be done at one time.

* * *

Quality of Worsted Yarn

Technical Editor:

We are enclosing a cop of 3/30s worsted yarn with 19 turns in the twisting. This yarn is used as filling with a silk warp. Will you kindly express your opinion as to whether this is a well made yarn. If you think it is not, will you state why? On the other hand, if you think it is, will you kindly give expression as to the merits of the yarn from your point of view. (6259)

We have only one criticism to make regarding this yarn. The single from which it was made is too uneven, consequently there is not the evenness and roundness which one would naturally expect from a three-fold yarn. The yarn is smooth and very well twisted

* * *

Uneven Loops in Full-Fashioned Stocking

Technical Editor:

We are sending two cones (*A* and *B*) of 7-thread China silk, and one stocking, a portion of which was knitted from each cone, as indicated. Will you kindly state your opinion as to the cause of uneven loops in the part knitted from cone *A*? During the knitting process this silk does not slide off sinkers as freely as it should, and leaves a small deposit of silk gum on the sinkers which prevents the loop from sliding off freely. The silk is from two different lots and we believe that on cone *A* is of softer nature than cone *B*. (6234)

In this fully fashioned hose leg the section marked *A* has a series of bands or "rings" which are due to the unevenness of the silk used. There is not enough of the section labeled *B* to judge whether the silk of *B* is as uneven as in section *A* or not.

Skeins were wound from each cone of yarn to determine the size. The length used was 120 yds., and the weight was in grains. The following table shows the weights and sizes found:

Tests of 120 Yds.

Sample	Weight	Size
A	19.9	105.8 denier
A	21.0	115.5 denier
B	22.7	120.7 denier
B	21.8	115.9 denier

This indicates that *B* is slightly coarser than *A*, but it hardy seems likely that this causes the difference in the fabrics.

Another test was made to determine the twist in the two samples. Ten-inch lengths were tested. In each case the silk was 7-thread and the twist was in the same direction in both samples. The following table shows the results of this test:

Twist in 10 in.

A	B
36	31
39	45
35	47
42	35
33	45
42	49
41	36
36	35
39	45
44	41
3.87 per in.	4.09 per in.

While there is some difference in the average twist of these two yarns, it is difficult to say that this is back of the difference in the knitted fabric. As it is, the coarser yarn *B* has more twist, and these two may combine to make the difference.

* * *

Cotton Crop and Indicated Production Reports

Editor, TEXTILE WORLD:

Will you kindly inform the writer just what the Government report on the cotton crop is? Also, how does it affect prices on cotton? (CD 189)

We assume that the Government reports on the cotton crop referred to are the socalled condition and indicated production reports as of the first of August, September, October, November and December and made public at 11 a. m. on the eighth of each of these months excepting November, and then on the ninth. These reports are compiled by the Crop Reporting Board of the Department of Agriculture in Washington and are made public at the same moment through each of the leading cotton exchanges, great care being taken that no prior leaks occur. The condition of the crop is given by States and also as an average for the cotton States as a whole.

In addition the Crop Reporting Board issues acreage reports as follows: On May 17, revised acreage and yield for 1926; July 9, estimated acreage planted in 1927 as of July 1; as of Sept. 1 and Dec. 1 reports of acreage abandoned. Based upon the condition and acreage reports, and a somewhat complicated system of pars the Board issues at the same date as the condition reports estimates of indicated production for the season. The latter are merely estimates of what the ultimate crop might be, if condition and acreage remains unchanged during the balance of the season, but they often are erroneously interpreted as being the Government's official estimate of what the final crop is to be. The final production estimate issued by the Crop Reporting Board in December takes cognizance of ginnings as well as of other factors to Dec. 1, and is, therefore, usually a more reliable forecast of the actual crop than the earlier estimates of indicated production.

The effect of these Government estimates upon cotton prices is always affected to some degree by the character of private reports and also by the fact that between the time the Government report is compiled and made public a little more than a week has always elapsed, thus giving time for further material improvement or damage to the crop. In the final analysis it is demand and supply that govern cotton prices over any long period, and the speculative and trade interpretation of Government reports and other knowledge regarding the crop, can have only temporary influence unless substantiated by later developments. Naturally there will almost invariably be a temporary speculative decline in prices if any given Government condition and indicated crop report is substantially higher than the average of private estimates, and vice versa if the condition and indicated crop reports of the Government are lower than the average of private estimates.

* * *

Oxford Cloth with Unusual Count

Technical Editor:

There is enclosed a small sample of material that we understand was used in making pajamas several years ago. We desire to obtain some pajamas made from this material but do not know how to describe the material. Can you tell us the trade name of this material, and give the thread count? (6244)

Our analysis of the very small cutting shows a cloth count of 80 x 52, with 30s warp and 15s filling. This would be about 3.50 yds. per pound with the width at 35-in. It is a type of Oxford cloth, although we do not know of any trade name for it. It is a little out of the ordinary as to cloth count, almost approaching a medium-weight cheviot.

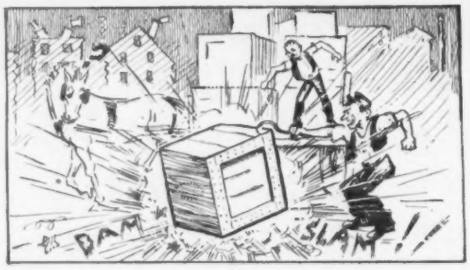
We are of the opinion that it is made from carded yarns; and would about cover the specifications for a coarse type of pajama cloth. It is a type of cloth probably used in tropical countries.

SOLD! The Clearing House turns non-producing machine units into cash—and the transition is usually speedy and complete. A woolen mill recently inserted the following advertisement in the Clearing House three times:

FOR SALE
2—48" Cashiko Tape Condensers, complete with leather tapes and aprons, 96 good ends, 4 waste ends.
2—36" x 49" Cement Composition Doffers.
2—48" Cashiko High Speed Combs. (With Card Clothing for doffers, No. 36 Wire.)
2—Doffers Dickeys complete with clothing, etc.
These machines have only been used for a short time, and are to all intents and purposes as good as new. We will sell at an attractive figure, and invite inquiries. Address Adv.—TEXTILE WORLD.

We queried them—what resulted? "We have sold the machinery we advertised. The Clearing House got in its licks. Let it work for you. See pages 224 to 227 this issue.

Smith & Dove Mfg. Co., Andover, Mass., has sold about $125,000 worth of tenement properties in two, four and eight tenement parcels or about one-half their total tenement holdings in Andover.



All the Way Through!

How often do you have to foot damage claims because your shipping boxes "give"? Even merely a few times during the course of a year is costly.

Let Wall Box Shooks case your yarns and fabrics. Boxes made of these sturdy shooks are rock-ribbed but light in weight. They are conditioned for heroic service all the way through.

Quotations gladly.

C. M. WALL & SON
Lexington, N. C.
Plants at
Lexington, N. C. Durham, N. C. Statesville, N. C.

WALL BOX SHOOKS

LOGEMANN

Hand-Belt-Electric-Hydraulic

Baling — Presses

From year to year, hundreds of new names are added to the list of LOGEMANN baling-press users in the textile field.

Every year, repeat orders from users of LOGEMANN baling-presses increase steadily, denoting the satisfaction derived from this equipment.

But—

Until every mill-owner, superintendent, and operator, is familiar with the LOGEMANN line of balers for yarn, waste and finished goods, our advertising has not accomplished its purpose.

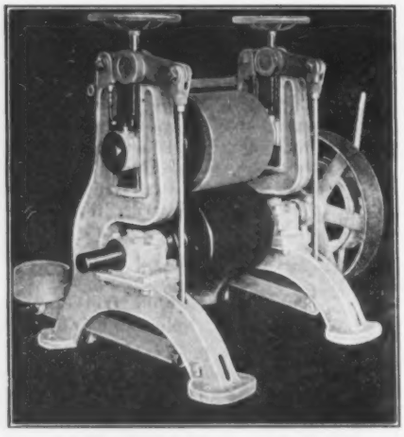
We solicit your inquiries.

LOGEMANN BROTHERS CO.

See also CONSOLIDATED TEXTILE CATALOG

MAIN OFFICE & WORKS
3100 Burleigh St., Milwaukee, Wis.

A Squeezer — Sturdy and Exact

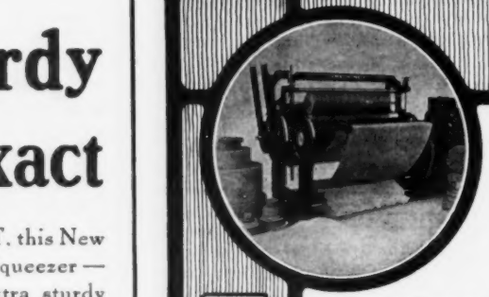


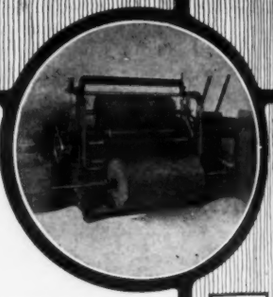
WELL BUILT, this New England Squeezer — built with an extra sturdy frame and rubber covered rolls. Rolls that are made to hold an exact alignment day after day. Self-oiling bearings that prevent oil drip. A friction clutch that stops the machine instantly . . . .

No wonder this squeezer has become so popular! No wonder it has proved so economical! *Write for further data.*

Other products include — Ball Bearing Dry Cans, Ball Bearing Reels, Washers, Mangles, Padders, Saturators.

Finishing Machines Dept.
NEW ENGLAND BUTT CO.
Builders of Textile Finishing Machinery
304 Pearl St., Providence, R. I.





STRIPS **TAPES**

STRIP CUTTING

The market for fabrics in strip, rewound into rolls, is steadily increasing and is already of important proportions. Economical production of the strip consumed by manufacturers of bags, flags, clothing, corsets, ribbons, tapes, and so on, demands an efficient slitting and roll-winding machine—CAMACHINE for short.

Textile men who use our CAMACHINE Universal Type 6 declare that it will handle practically every textile roll requirement, eliminating waste of time and materjal.

If you use fabrics in strip or roll form, or can market your product partially in roll form, let us give you prices and information on the size and type of CAMACHINE best suited to your needs. Complete literature is yours for a postal card; the suggestions you get from it may be worth dollars and cents to you.

See also CONSOLIDATED TEXTILE CATALOG

CAMERON MACHINE COMPANY
61 POPLAR STREET, BROOKLYN, N.Y.

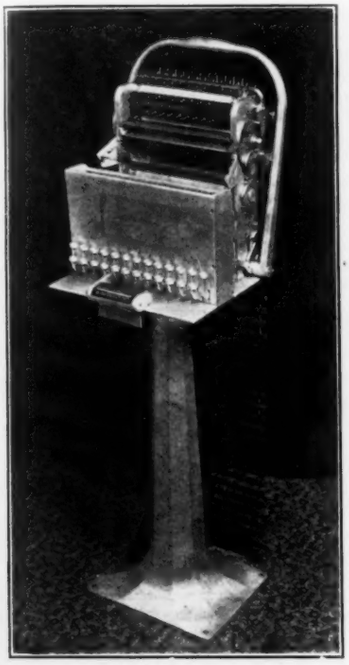
TRADE **CAMACHINE** MARK

NEW MACHINERY & PROCESSES

For Pegging Harness Chain

Machine Removes and Inserts Pegs for Dobby Loom

A machine for accurately pegging harness chains for dobby looms has been developed by Fred Uttley, 72 Tiemann Ave., Corona, L. I., New York. The chain is first placed on the top cylinder. The handle is then drawn down and returned to the original position about ten times to eject the old pattern pegs and get the first bar in position to insert the new pattern. A paper pattern is then placed so that the first row of squares shows through the 1/8 in. slot in the cover. It is then very clear which of the keys should be pushed down, as the numbers in front and at the rear of the slot correspond to the front and rear rows of keys. Wherever a mark shows on the pattern paper, by simply pressing down the key corresponding to the number in line with the mark, the operator places a peg in position to be inserted at that particular hole in the bar.



Machine for Removing and Inserting the Pegs of Dobby-Loom Harness Chains

After all keys have been pressed down where the pattern shows they are needed, the operator simply draws the handle forward, thereby ejecting all pegs from another bar, inserting all new pegs where the keys were pressed down, and returning the keys to the original position. The operator now returns the handle to the starting point and, by so doing, revolves both upper and lower cylinders as well as the pattern roller. Everything is now in position for repeating the operation.

It is claimed that the changing from one pattern to another can be done about 20 times faster than by the hand method. Greater accuracy is also claimed, because of the means afforded for reading the design without counting the squares. When the work is done by hand, the workman picks up one peg at a time, inserts it into a socket-wrench, counts the squares in the design, counts the holes in the bar of the chain, and inserts the peg. This double counting must be done for each peg, and is the source of many of the mistakes found in weaving on dobby looms. This practice is tedious, requires considerable time, and necessitates the employment of skilled workmen.

Sometimes incorrect weaving is caused by pegs which have been inserted at an angle, thereby lifting wrong jacks. The new machine is claimed to obviate this trouble. It is also said to eliminate trouble from loose pegs and split bars. Losses to the mill from incorrect weaving sometimes amount to hundred of dollars weekly.

Totally Enclosed Motors

For Portable Hoists—Shaft Extended for Brake

General Electric announces a new line of motors for portable electric hoists and for other applications involving intermittent operation and high starting torque. The line runs from one to ten horsepower in the direct-current types; from one to eleven horsepower, single speed, three- and two-phase; and from one to five horsepower, single phase, in the alternating-current types. Three- and two-phase, slip-ring type hoist motors are also included from three horsepower up.

The new motors are totally enclosed, and all parts are well protected. Bearings are of the waste-packed, sleeve type, being closed against the entrance of dirt from the outside. The direct-current motors are series wound. The alternating-current motors of the polyphase type have high-resistance rotors, while the single-phase motors have an unusually high starting torque.

In a great many of the applications of these motors a brake is required. Accordingly, the motors are all built with the shaft extension away from the drive so that it can take a brake, and the motor end-shield at this end is fitted with pads or bosses with drilled and tapped holes for mounting the brake.

Everett Mattress Co., Everett, Mass. (169 Vine St.), has filed notice of organization to operate a mattress plant. Samuel Rosenblatt is head.

Truck Caster

New Type Is Protected Against Thread Accumulation

A new type of caster for use in textile mills has been brought out by the Service Caster & Truck Co., Albion, Mich. It is known as the thread-guard caster, and is so-called because of the design, which is such that the axle is protected from fibers, threads, and rags which tend to wind up on caster axles and interfere with the free running of the casters.

Service casters are constructed so as to be as frictionless and free-running as possible by incorporating Timken and Hyatt bearings at every point of contact. The yoke, top plate, and wheel have been designed with a view toward ruggedness, for the designers realize the strains which mill truck casters must meet. In order that proper lubrication may be effected, many of the service casters are provided with Alemite fittings.

Truck Caster Protected Against Thread Accumulation

The officials of the company state that the new type of caster has been subjected to performance tests and that they are satisfied that it offers protection against waste and thread accumulation on the caster axle.

The main feature of the thread-proof caster is the better anchorage which it has. As can be seen in the accompanying illustration, there is no opening at the top of the shield and there is protection at the bottom of the yoke. It is stated that the thread-guard feature can be furnished on practically every type of Service caster at a slight additional cost.

RECENT TEXTILE PATENTS

Calendering machines, Doctor operating mechanism for. 1,644,917. J. A. Frossard and G. Lamoureux, Worcester, Mass.

Calendering machines, Roller for. 1,644,819. G. L. Doerr, Mannheim, Germany. Assigned to I. G. Farbenindustrie Aktiengesellschaft, Frankfort, Germany.

Cotton during spinning operations. Device for distinguishing different sorts of. 1,645,432. J. Lauffer, Logelbach, France.

Cotton pickers, Automatic knock-off for. 1,645,412. O. Brown, Columbus, Ga. Assigned one-half to Morton Machine Works, Columbus, Ga.

Fabrics, Method and apparatus for feeding. 1,645,501. H. I. Huey, Saylesville, R. I. Assigned to Sayles Finishing Plants, Inc., Saylesville, R. I.

Fabrics, Method of and apparatus for passing threads into. 1,645,257. R. Rossman, Grunberg, Germany. Assigned to Deutsche Wollenwaren Manufaktur Aktiengensellschaft, Grunberg, Germany.

Fulling mill. 1,645,210. E. J. Wilson, East Greenbush, N. J. Assigned to F. C. Huyck & Sons, Rensselaer, N. Y.

Hosiery machine of the straight or flat web type. 1,645,439. L. Marneux, Paris, France.

Knitting machine. 1,644,688. E. Oesterreich, Philadelphia, Pa.

Looms, Dobby for. 1,645,203. J. Northrop, Hopedale, Mass. Assigned to Hopedale Manufacturing Co., Milford, Mass.

Looms, Warp beam for. 1,644,721. A. A. Gordon, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

Silk, Degumming. 1,644,764. L. Wallerstein, New York. Assigned to Wallerstein Co., Inc., New York.

Singeing apparatus. 1,644,808. E. J. Ziock, Rockford, Ill.

Textile roll, 1,645,348. J. H. Pullman, Fall River, Mass.

Water-Softening apparatus. 1,644,714. C. P. Eisenhauer, Dayton, O. Assigned to The Duro Co., Dayton, O.

Winder. 1,644,946. B. A. Peterson, Rockford, Ill. Assigned to Barber-Colman Co., Rockford, Ill.

Yarn winding machine. 1,644,973. J. K. Altemus, Philadelphia, Pa.

Looms, Device to check needle motion of Axminster. 1,643,431. K. J. Unwin, Shrewsbury, and W. H. Wakefield, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

Looms, Filling Stop motion for. 1,643,931. D. E. Skedgell, Millville, N. J. Assigned to Millville Manufacturing Co., Millville, N. J.

Looms, Let-off mechanism for. 1,643,417. O. V. Payne, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

Looms, Protector mechanism for. 1,643,412. E. L. Lane, Mooresville, N. C. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

Looms, Thread cutter for. 1,643,457. V. H. Jennings and H. H. Watson, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

Looms, Thread cutting mechanism for. 1,643,422. E. H. Ryon, Pasadena, Cal. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

Looms, Weft detector for box. 1,643,432. W. H. Wakefield, Worcester, Mass. Assigned to Crompton & Knowles Loom Works, Worcester, Mass.

Shuttle. 1,643,360. R. N. Allen, Methuen, Mass. Assigned to U. S. Bobbin & Shuttle Co., Providence, R. I.

MILL SURVEYS

Over 60 Cotton Mills Have Had This Service With Very Satisfactory Financial Returns.

It is Practical, Logical and Thorough.

We Will Be Glad to Explain The Character of Our Surveys.

TEXTILE DEVELOPMENT CO.
SIDNEY S. PAINE, Pres.
80 Federal Street, Boston, Mass.

A Valuable Reference and Data Book for Mill Executives

"MISCELLANEOUS SCIENTIFIC PAPERS"
Pertaining to Cotton Spinning and Industrial Engineering

Among many unsolicited and gratuitous testimonials from persons with whom we had formerly no acquaintance are the following:

A mill Treasurer writes,—"I have read with a great deal of interest the book recently purchased from you—Miscellaneous Papers — — —. A compliment might be appreciated and it is certainly merited. Textile books generally run so strongly to personal opinion, superstition, guess and prejudice that your publication was a treat. I would ask that you send us three more copies."

A Director of one of the leading schools of Technology writes,—"We should like to express our appreciation of this very fine work, and congratulate you upon issuing a volume of this kind. We believe that works of this kind are more valuable than any textbook ever issued. We are glad, indeed, to have this book for our use in the school."

Price $5.00 Postpaid

It has been supplied to MANUFACTURERS, ENGINEERS, UNIVERSITIES, TECHNICAL SCHOOLS and PUBLIC LIBRARIES.

May we send you a copy for examination?

F. P. SHELDON & SON Providence, Rhode Island.

MILL NEWS

COTTON

New Construction and Additions

***J. & J. Cash, Inc.,** Los Angeles, Cal., which recently completed a one-story, 50 x 130 ft. mill, are now moving into the new building. Additional machinery will also be installed.

***Arnco Mills,** Newnan, Ga. Work has already begun on the 150 x 436 ft. extension to these mills, and the following sub-contracts have been awarded: Structural steel, the Virginia Bridge & Iron Co., Roanoke, Va.; roofing and sheet metal, R. L. Moncrief, Newnan, Ga.; steel sash, David Lupton Sons Co., Philadelphia. Lockwood, Greene & Co., of Atlanta, are the engineers. Fisk Carter Construction Co., Greenville, S. C., have the general contract.

Brockton (Mass.) Narrow Fabric Co., a new concern, will manufacture elastic webbing in a part of a plant in the Campello section. Arthur W. Carter is heading the new company.

Pepperell Mfg. Co., Lowell, Mass., is installing machinery to wind, size and otherwise prepare rayon for weaving. This work has heretofore been done on the outside, but from now on all the rayon used at the plant will be wound and prepared there. The new department will be in charge of Frank Sargent, who has been connected with the Ipswich Mills, at Lowell, for many years.

Multibestos Co., Walpole, Mass., has awarded a general contract to the Bouvier-Brien Construction Co., Woonsocket, R. I., for a one-story brick and steel addition on South St., reported to cost close to $40,000, with equipment.

***La France Textile Industries,** Philadelphia, Pa., are making satisfactory progress on the construction of their new administration building. It is now about 20% complete.

Rhode Island Plush Mills, Woonsocket, R. I., will soon begin the erection of a new two-story addition, 46 x 150 ft., reported to cost in excess of $65,000. Lockwood, Greene & Co., Boston, Mass., are architects.

Appleton Mfg. Co., Anderson, S. C., will receive bids until Nov. 2 for construction of an addition to its plant to house about 30,000 spindles.

***Renfrew Co.,** Greenville, S. C., has purchased property at Travelers' Rest, near Greenville, on which it will erect a new plant. Two hundred looms from the mill of the Renfrew Mfg. Co., Adams, Mass., will be transferred to the new plant.

***Chiquola Mfg. Co.,** Honea Path, S. C., has awarded contract to the Gallivan Building Co., Greenville, S. C., for construction of a four-story, 75 x 130 ft. addition to house about 5,000 spindles. J. E. Sirrine & Co., Greenville, are the engineers.

Fact and Gossip

Opelika (Ala.) Mfg. Co., which has been operated for the last four years by George H. Lanier and associates, has been turned over to those who owned it heretofore and had sold it and taken bonds for payment. The capital stock of this concern is now $500,000 and the bonded indebtedness has been reduced by the cancellation of $400,000 bonds surrendered and destroyed. The following have been elected as directors for the new control: W. T. Andrews, John V. Denson, H. A. Bedell, C. M. Jernigan, John Allen Jones, C. S. Shealy and M. M. McCall. M. M. McCall has been elected president and treasurer; John Allen Jones, vice president, and James G. Spann, secretary. John T. Henderson has been made superintendent. The new management is changing the mill over to make white yarns as formerly made there up to July, 1923, at which time it was put on colored yarns by those who then took over the mill.

***Colonial Lace Mfg. Co.,** Middletown, Conn., recently incorporated with capital of $50,000, has taken over the plant of the Wilcox Lace Co., and is now manufacturing laces and novelty curtains there, equipped with seven lace machines, ten sewing machines, dyeing and bleaching machinery. James H. Porteous is president and Louis H. Russell, treasurer of the new company. Product is sold direct.

L. H. Gilmer Co., of Louisiana, Shreveport, La., is running its plant on a capacity schedule and will hold to this basis for an indefinite period.

***United Elastic Corp.,** Easthampton, Mass. Consolidation of the Glendale Elastic Fabrics Co., George S. Colton Elastic Web Co., and the Easthampton Rubber Thread Co., all of Easthampton, and Conant, Houghton & Co., Inc., Littleton and Lowell, Mass., has been effected under the above name with a capitalization of about 165,000 shares of no par value having a market value of approximately $6,500,000 and a surplus of $1,000,000. Officers of the new corporation are: President, Edward L. Shaw, Northampton, Mass., who was president of the Glendale Elastic Fabrics Co.; treasurer, William L. Pitcher, who was clerk and general manager of the Easthampton Rubber Thread Co.; plant manager, William Astill, who was treasurer and general manager of the Glendale Elastic Fabrics Co. The general offices will be in Easthampton with branch offices in New York, Providence, R. I., and other places.

***Ray Cotton Co.,** Hebronville, Mass., which recently leased the former Hebron Mills of B. B. & R. Knight, has started operations there. The carded cotton plant of the Ray company at Woonsocket, continues under the supervision of Frank E. Woodward.

Fisk Rubber Co., Ninigret Division, New Bedford, Mass., will close down its plant at the end of the day shift, Oct. 29, until further notice. Seasonal slackness is given as the reason of the action, and operations will be resumed, says General Manager Harrington, just as soon as conditions warrant.

Mason Cotton Mills Co., Kings Mountain, N. C., has been placed in the hands of a temporary receiver, W. K. Mauney, of Kings Mountain being named. The total indebtedness is said to be $175,000.

Lola Gingham Mills, Stanley, N. C., have been purchased by R. F. Craig, of Stanley, J. A. Gardner, of Charlotte, and J. E. Kale, of Lincolnton. It is understood the new owners plan to re-equip and operate the mills.

Frankford Textile Mills, Philadelphia, Pa. In a schedule filed in the U. S. District Court, this firm showed liabilities of $48,745 and assets of $37,379, the petition of voluntary bankruptcy having been filed Oct. 13. Major portion of liabilities are represented in unsecured claims.

***Manville Jenckes Co.,** Central Falls, R. I., is now operating 650 looms in its U. S. Division at Central Falls. The looms were transferred from the Social Mill at Woonsocket to the U. S. Division, which had been closed down for some time.

Manville (R. I.) Mill of the Manville Jenckes Co., has started 200 additional looms in operation on a night shift. Conditions in this mill continue to improve and a record force is employed.

Enoree (S. C.) Mills. A meeting of the stockholders will be held at the office of the Arkwright Mills, Spartanburg, S. C., Nov. 2, for the purpose of voting on a resolution to amend the charter of the mills changing the name to Riverdale Mills.

Waco (Tex.) Twine Mills have filed a voluntary petition in bankruptcy in the United States District Court at Waco. No schedule was filed, but it was stated by officials of the corporation that the assets will aggregate $300,000 with liabilities of approximately the same amount. Dreo M. Wood of Waco was named receiver by T. F. Bryan, Federal referee in bankruptcy.

WOOL

New Construction and Additions

Pioneer-Pacific Worsted Co., Long Beach, Cal. One-half of the plant of this company is now operating day and night, and within the next few months the company expects to increase its output 50%. Demand for the product necessitates adding 5,000 sq. ft. of space to the finishing department.

***Cranston Worsted Mills,** Bristol, R. I., have awarded the general contract for the proposed mill addition to the Rowley Construction Co., Pawtucket, R. I. Jenks & Ballou, Providence, are the architects.

Atlantic Mills of Rhode Island, Providence, R. I., have filed plans for the erection of a two-story brick addition to their filter plant on Manton Ave.

Southern Pyle Fabric Co., Greenville, S. C., a $150,000 concern, will establish a plant in Greenville, where it will lease a new mill building to be erected on the site of the old Riverdale Mill at a cost of between $30,000 and $40,000. It is said that the heads of the new company operate a plant in Philadelphia, Pa.

Fact and Gossip

***Crawford & Tyler,** North Dana, Mass., who are obliged to move on account of the state taking their property for the Swift River valley water project have received offers to locate in several southern States in addition to New England States. They have practically decided to relocate in Worcester County.

Quinapoxet (Mass.) Mfg. Co. A sheriff's sale of this property will be held on Dec. 10 at 10 a. m. to satisfy executions obtained by the Taunton (Mass.) Silk Fibre Co., Rishell-Hegarty Coal Co., Worcester, Mass., and others. The State through the Metropolitan Water Commission is to take over the property in connection with the purification of the water supply of the Wachusett Reservoir, but a deed cannot be given until the company's legal entanglements have been cleared up.

Saxonia Worsted Mills, Philadelphia, Pa. Machinery and equipment and mill building occupied by this concern, one of the most important manufacturers of worsted dress goods in this vicinity, are being offered at public sale, the business being liquidated. They are located at Allegheny Ave. & C St., and had approximately 250 looms.

Dominion Combing Mills, Ltd., Trenton, Ont., Canada. A special meeting of the shareholders of this company was held recently. The following were elected directors: C. A. E. D. Browne, of Toronto; T. W. LeSage, of Montreal; Fred Jackson, of Toronto; Fred W. Bohin, of Toronto, and J. S. Beaty, of Toronto. A by-law pertaining to reorganization read by Mr. Loftus, was unanimously adopted and the new directors were instructed to act in accordance with it. Upwards of $840,000 worth of shares was represented at this meeting. W. A. Fraser, mayor of Trenton, was present as a shareholder and expressed himself as willing and anxious to help the incoming directors in reorganization of the corporation. At a subsequent meeting of the board of directors, C. A. E. D. Browne was elected president.

KNIT

New Construction and Additions

***Oakes Brothers,** Jamaica Plain, Boston, Mass., have filed plans for a proposed one-story addition to their mill, on site at Williams and Water Sts., to be 65 x 160 ft., reported to cost in excess of $38,000, with equipment; it will be of brick and mill type.

***H-R-H Silk Hosiery Mill,** Moberly, Mo. This will be the name of the new mill to be established here. The plant will be one-story high, 36 x 100 ft.

Burton Yates Silk Co., Fultonville, N. Y., is the name of a newly organized firm which has started the manufacture of silk underwear in a leased plant. Mr. Yates was formerly superintendent at the Goram Silk Mills in Hudson.

Oswego (N. Y.) Rayon Corp. is adding new machinery as business warrants an increase in facilities.

Fox Chase Knitting Mills, Philadelphia, Pa., manufacturers of full fashioned hosiery, 27 Jarrett Ave., Fox Chase, are installing five 51 gauge machines to make ingrain hosiery, according to Henry L. Kahn, president and treasurer, who states more machines of the same type will be installed as demand warrants.

***Belle-Terre Hosiery Co., Inc.,** Reading, Pa., recently organized with

* Indicates previous mention of project.

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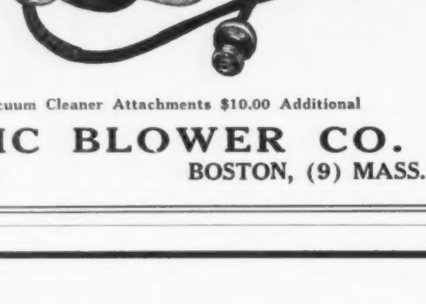

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Fig. 375 Bronze White Star Gate Valve

White Star Valves are obtainable in bronze or iron body with bronze mountings in globe, angle, cross, check and gate patterns.

Distinctive Powell features of union bonnet construction and non-corrosive "Powellium nickel" seats and discs insure longer service and ease in regrinding when necessary as well as renewable features of these essential parts.

All Powell Products insure the utmost in service under all conditions. Reliable dealers with stocks most everywhere.

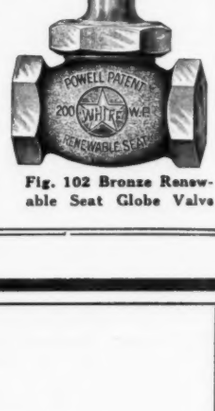

Fig. 102 Bronze Renewable Seat Globe Valve

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"Wolmanized Lumber Does Not Decay"

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See also CONSOLIDATED TEXTILE CATALOG

Mill News—Continued

capital of $100,000, has bought a mill building at Third and Bern Sts. and is installing 12 full fashioned knitting machines for making ladies' silk hosiery. Operations are expected to begin about Dec 1. Stanley Bellemere is president and J. Wm. Terrey, treasurer of the new company.

* **Eagle Knitting Mills,** Milwaukee, Wis., have awarded a general contract to Paul Riesen's Sons, Milwaukee, including masonry and carpentry, etc., for its proposed four-story and basement mill at Reed and Virginia Sts., estimated to cost $175,000, with machinery. The Federal Engineering Co., Milwaukee, is engineer.

Niagara Silk Co., Ltd., Brantford, Ont., Canada, plan the erection of an addition and the production of new lines. The following officers have been elected for the ensuing year: President, J. T. Shanahan; vice-president, George Mathews; chairman of the board, Joseph Ruddy; secretary-treasurer, Fred Mann; board of directors, J. T. Shanahan, M. Shanahan, Joseph Ruddy, George S. Mathews, E. P. Park, John S. Dowling and Fred Mann.

Fact and Gossip

Walker Knitting Mills, New York, N. Y. (16 W. 32d St.), have filed schedules in bankruptcy showing liabilities of $114,046, and assets of about $30,673.

Ideal Linen Mesh Co., Inc., Poughkeepsie, N. Y., has filed notice of reduction in company capitalization from $200,000 to $125,000.

L-K Hosiery Co., Utica, N. Y., has purchased the equipment of C. H. Yates & Co., Utica, and is now operating 80 knitting machines on a full time basis.

S. Y. W. Hosiery Mills, Inc., Burlington, N. C., have been chartered with an authorized capital of $150,000, of which $75,000 has been subscribed by W. A. Shoffner, L. I. Young and J. E. Shoffner, all of Burlington.

* **Longview Hosiery Mills, Inc.,** Hickory, N. C., which started the manufacture of men's silk and silk and rayon hose in their own building at Hickory last spring, as reported at that time, succeeded to the business of the Shuford Hosiery Mills and transferred machinery from Bryson City to Hickory. They have 50 Banner split foot machines, ten ribbers, two sewing machines, five loopers, one boiler, dyeing and finishing machinery. Product is sold through jobbers. H. C. Cline is president; Abe Nail, secretary and treasurer; W. H. Shuford, vice president. Mr. Shuford is also buyer and has charge of selling.

Imperial Knitting Mills, Philadelphia, Pa. Announcement has been made that Joe Messinge has withdrawn as a partner of this concern, manufacturers of knitted ties at 321 N. 8th St. Business will be continued along the same lines and at the same address by I. N. Cotlar and Samuel Herman, props.

The Vogue Silk Hosiery Co., Philadelphia, Pa. A charter incorporation has been issued to this company, manufacturers of full-fashioned hosiery at 21st and Toronto Sts. It has been capitalized at $100,000, of which $10,000 has been paid in. Samuel Tait, is treasurer; other incorporators mentioned were John Tait and Ernest Tither.

Venus Silk Hosiery Co., Philadelphia, Pa. Application for a charter of incorporation is being made for a company to trade under this name. This is an incorporation of the full fashioned hosiery manufacturing business, located at Wissinoming & Friendship Sts., which recently started production, operating in the interval as the Venus Hosiery Mills.

Carlton Mills Co., Inc., Philadelphia, Pa. Announcement has been made this company, manufacturers of chinchillas, astrakans, stockinet, jersey cloth, and all kinds of knitted fabrics, located at Coral & E. Hagert Sts., are liquidating and will retire from business. They operated approximately 52 spring needle knitting machines, and were one of the best known manufacturers in their line in that vicinity.

Keystone Knitting Co., Philadelphia, Pa. U. S. District Court has authorized the receiver of this firm, manufacturers of knitted ties, at 134 N. 13th St., to sell assets at public auction sale, the assets being estimated to be worth $5,000.

Allsilk Hosiery Mills, Inc., Lansdale, Pa., have been formed with a capital of $25,000, to operate a local knitting mill. The company will be represented by Howard F. Boorse, 114 Courtland St., Lansdale, treasurer. In addition to Mr. Boorse, the incorporators include William G. Campbell, Richard Wagner, George W. Gross and William F. Gross, Lansdale.

* **Paris-Hecker Hosiery Co., Inc.,** Reading, Pa., recently incorporated with capital of $10,000, has purchased the controlling stock of the Noe-Equl Textile Mills and will carry on the business as previously. Office of the Paris-Hecker company is located at 1321 Arch St., Philadelphia.

Jersild Knitting Co., Neenah, Wis. Reorganization of this company has been effected through transfer of approximately $180,000 worth of stock formerly owned by L. J. Pinkerton and E. E. Jandrey to C. M. Jersild, N. C. Jersild and W. I. Pearson, all of Neenah. G. L. Madson continues as president with Gustav Kalfahs, vice president and W. I. Pearson, secretary and general manager.

Elite Knit Goods, Ltd., Toronto, Ont., Canada, has been granted a charter for the manufacture of all classes of knit goods. The authorized capital is $40,000. The incorporators are Isadore Levinter, James Bagley and Leonard Love.

SILK

New Construction and Additions

* **Paulton Silk Co.,** Paterson, N. J., has awarded a general contract to the Gedna. Bittenbender Co., Berwick, Pa., for building the first unit of a proposed new mill at Berwick, to be one-story, 70 x 112 ft.

* **Schwarzenbach, Huber & Co.,** Union City, N. J., have superstructure under way on their three-story and basement addition, 68 x 92 ft., to cost about $100,000, with equipment.

* **Vogt Mfg. Corp.,** Rochester, N. Y., has recently completed construction of a one-story mill addition having 120,000 sq. ft. floor space.

***Goldsboro (N. C.) Narrow Fabric Co.,** which started production the latter part of September, is now making deliveries of its product.

Twentieth Century Silk Corp., Bethlehem, Pa., is having plans drawn for a two-story brick and steel addition,

* Indicates previous mention of project.

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HAVE you a check on the antics of your boiler pressure? Do you know how often it slumps down to a low, lifeless level—how often it clamors up above the danger line? It's this ragged running that can start trouble—and does!

Follow the red line on the chart of a Bristol's Recording Pressure Gauge. See every change in pressure—see trouble while it's still young. And stop it. Then you can bank on saving a worthwhile amount of time, steam and fuel. For with the chart as a guide, it's a simple matter to hold the pressure exactly where you want it—24 hours every day.

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ATLANTA, Candler Building
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NEW ORLEANS, 344 Camp Street
HOUSTON, TEXAS, 1011-13 Electric Building
DALLAS, TEXAS, 2001 Magnolia Building
DENVER, 444 Seventeenth Street
SALT LAKE CITY, 405-6 Kearns Building
SAN FRANCISCO, Sheldon Building
LOS ANGELES, 404-406 Central Building
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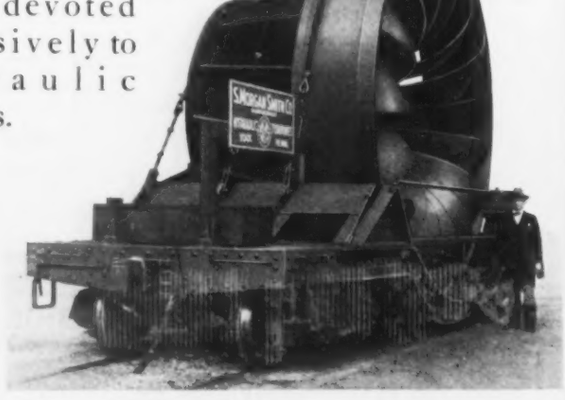
are the result of 50 years specializing in the design and manufacture of water power equipment, and are today built in the largest factory in the world devoted exclusively to hydraulic turbines.



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realizes all the theoretical advantages of Unit Heater principles

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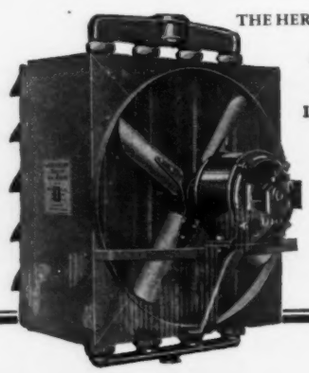

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Moline, Illinois
Makers of the UNIVENT
and the
HERMAN NELSON
INVISIBLE RADIATOR

Write for your copy of the Herman Nelson hiJet Unit Heater catalogue.

Mill News—Continued

reported to cost in excess of $25,000, with equipment. E. R. Bitting, Allentown, Pa., is architect.

* **Stessman & Schmitt,** Quakertown, Pa., which started a commission throwing plant at Main & Juniper Sts., a few months ago, have an equipment of 2,500 spindles. They buy electric power.

Fact and Gossip

Belding Heminway Co., Rockville, Conn. This plant, which has been idle since June when the machinery was transferred to the company's mills at Putnam and Watertown, Conn., will soon change hands. Lafayette Keeney, president of the Somersville (Conn.) Mfg. Co., having practically concluded negotiations for the purchase.

Myra Silk Mills, Inc., Paterson, N. J., recently formed with a capital of $100,000, to operate a local broad silk mill, will be represented by Albert Zalatan, 62 Railroad Ave., Paterson.

A. Scholcan, Inc., Maryville, Tenn. According to a report, this company will establish a new silk mill at Maryville.

DYE, BLEACH AND FINISH

New Construction and Additions

* **United States Finishing Co.,** Sterling Conn., has work under way on a new one-story addition to its local mill, to be brick and concrete, 100 x 210 ft., reported to cost in excess of $50,000, with equipment. Pierce & Gaetz, Inc., Providence, R. I., are general contractors.

Louis Terry Corp., Chicago, Ill., which has been operating a dyeing business with headquarters at 320 S. Franklin St., has moved to larger quarters at 500 S. Throop St., where 20,000 sq. ft. of space are occupied. The firm, which has recently been incorporated for $50,000, does dyeing and processing of rayon yarns and has a capacity of 2,000 lbs. per day. Louis Terry is president and David Terry, treasurer.

Carolina Dyeing & Winding Co., Mt. Holly, N. C., incorporated recently in Massachusetts with a paid-in capital of $150,000, will lease a plant to be erected near the Catawba River at Mt. Holly. The new company will install machinery for dyeing and winding on commission for the weaving and knitting mills. In connection with rayon yarn, delivery can be made on cops, cones, beams, or in skeins, dyed or in the natural color, sized or unsized. Cotton yarn can be dyed and delivered in skeins, chain warps, beams, or packages. Equipment has been purchased for making voile twist and other special twists involving both rayon and Celanese yarns, and for delivery of this material in convenient form. The plant will employ from 100 to 150 people. The president of this corporation is Edwin F. James, who was for a number of years one of the owners of the Textile Silk Dye Works, Philadelphia, and previously district sales manager for E. F. Houghton & Co., Philadelphia, with headquarters in Atlanta, Ga. Mr. James will reside in Charlotte, and after Nov. 7, will establish a temporary office at 1016 Johnston Building, occupying it until the plant at Mount Holly is completed. Royal Little, Boston, Mass., is treasurer. Mr. Little is also treasurer of the Lustron Co. and of the Special Yarns Corp.

* Indicates previous mention of project.

Obituary

R. A. Morrow

R. A. Morrow, aged 65, died at Monroe, N. C., last week following a short illness. He was one of the founders of the Icemorlee cotton mills at Monroe, the name of the company being made up from three words taken from the main promotors of the company when it was organized several years ago, Charles Iceman, R. A. Morrow and W. S. Lee. Mr. Morrow was a director of the mill at the time of his death and was also a director of the Monroe Mills Co. and the Manetta Mills. He was president of the Bank of Wingate, Wingate, N. C., vice president of the First National Bank of Monroe and together with his three sons owners of a large wholesale grocery store at Monroe. In addition to the three sons mentioned he is survived by his widow and two daughters.

Charles J. Dohn

Charles J. Dohn, aged 61, for the last 16 years superintendent of Cooper, Wells & Co., St. Joseph, Mich., died Oct. 16, after an illness of a year and a half. Mr. Dohn was born in Columbus, Ohio, Jan. 19, 1866. Prior to coming to Cooper, Wells & Co. in 1911, he was for many years superintendent of the Holston Mfg. Co. at Lenoir City, Tenn. He was considered a well versed man in the hosiery industry with many friends. He is survived by his widow and one son.

Edwin F. Smith

Edwin F. Smith, superintendent of the York Mfg. Co., Saco, Me., for the last seven years, died Oct. 19 at his home in that city. Mr. Smith was 68 years old and had been in poor health for several months. He was a native of Rockland, Me., and went to work in the York Mills at the age of fourteen. Aside from five years spent in mills at Three Rivers and Providence, R. I., he had worked all his life for the York company, a period of about 50 years.

Joseph H. Ridings

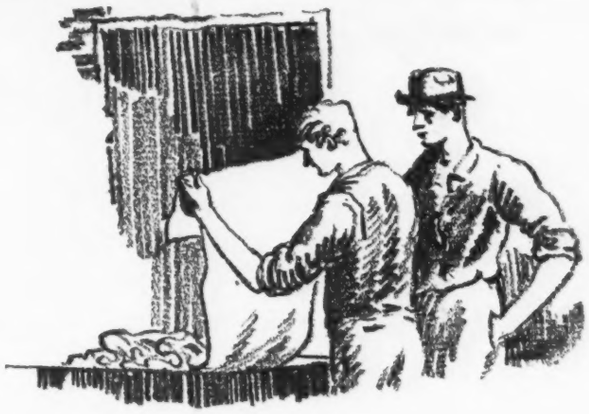
Joseph H. Ridings, for many years general manager of the Schaghticoke (N. Y.) Woolen Mills, died recently at Manchester, Conn., following an attack of heart disease. He was born in England and was 75 years old at the time of his death. Coming to this country at an early age he spent considerable time in the employ of various woolen mills retiring from active duty several years ago.

George McPherson

George McPherson, a widely known Canadian textile man, who until ten years ago was vice-president of the Guelph Carpet Co., died at Guelph, Ont., Canada, recently. Mr. McPherson was also interested in the Guelph Oiled Clothing Co. and was prominent in public affairs in the city.

Alvah A. Shumway

Alvah A. Shumway, for 14 years an overseer for the Corticelli Silk Co., Florence, Mass., died at his home in Williamsburg, Mass., on Oct. 22, after a week's severe illness with angina pectoris. He was a native of Vermont, 59 years old and had lived in Williamsburg for the last 10 years. He leaves a widow, his mother and three brothers. Burial was in Florence.



Fulled cloth rinsed better with Oakite

A MID-WEST woolen mill uses Oakite in its finishing department for rinsing automobile upholstery cloth after fulling. Oakite is preferred for this work because it not only washes out all soap quicker, but also gives the goods a much better "feel"—leaves them pleasantly soft.

This leads to another advantage. When Oakite is used as an assist in the fulling stock and in rinsing, the superior results obtained in these operations, make possible better dyeing. Dyes penetrate more rapidly, colors are lively and perfectly uniform.

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Fancy effects produced by the well known floating pattern system. The horizontal striping mechanism can be arranged to control either the facing yarn or the backing yarn. Two-color stockings can be knit with plain sole and high heel.
Attachments for producing the fancy effects can easily be thrown out of action, and machines produce plain stockings, as with any HH, K or B machine.
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Hose

KNIT GOODS

Hosiery Tone Reflects Raw Material Doubt

Demand for Fancies Continues with Varying Conditions Among Manufacturers

Hosiery conditions change little from day to day with the market between active seasons. Apparently there are few buyers in town and there is little in the situation to warrant special activity. Prices remain without change, for the most part—although it must be confessed that the buyer is not positive in his own mind that they are to continue unchanged for an indefinite period. The consequence is unless he needs goods for filling-in requirements, he is not placing orders. In other words, he is not anticipating to any degree. In cotton hosiery the degree of fluctuation which marks the raw material market does not lead to any great assurance on the part of the buyer that he will not benefit by waiting to make his purchases. On the other hand, the seller feels there is just as much likelihood of advances in the near future as there is of any weakness. This is the effect of the raw material market which has little basis for determining actual definite trends.

Varying Infants' Sock Conditions

Conditions in the infants' sock division of the market, vary considerably. There is no doubt that certain leading manufacturers have secured a very satisfactory business. But even among the leaders, there are reports to the effect that not more than half of the season's production is under orders; and it remains to be seen whether the additional 50% can be sold. On 7/8 goods, those who have made a specialty of this line are very well satisfied with the business that has been done. Novelties are in the ascendant in this section of the market and business of a duplicate character has been larger, in many instances, than the majority anticipated. As a matter of fact, it is unusual to secure duplicates on fancies, but in a number of cases, it is reported that certain lines have been duplicated two or three times where the patterns have appealed to the buyer.

Chain Store Trade Increases

The growth in demand from the chain store for lines of fancy hosiery —particularly children's goods is phenomenal. The competition this gives the jobber is undoubtedly very severe; for it is impossible to sell the retailer who is close to a specific chain store where goods are sold on a very small margin, but because of the volume of business done, profits are large in the aggregate. There are few houses today who refuse to sell to chain stores. It is contended

(*Continued on page* 181)

Rumors About Heavy Underwear

Reports of Memorandum Sales for Next Year Are Current

A GOOD deal of interest is apparent among the underwear trade as to the outlook and possibilities of another season. Just when heavy-weights will be open for another year, it is hard to predict. Much will depend upon the weather, for if cold, snappy weather prevails next month, it is very likely that the buyer will be anxious to start operations for another season. On the other hand, with a continuance of the present moderate temperature, distributors are going to be rather reluctant to buy ahead—especially if their current stock is not moving. So far demand for current delivery—both on cotton and wool goods—has been very satisfactory. This demand will increase with favorable climatic conditions.

The Seller and the Next Season

Another element which enters into the determination of opening lines for the next heavy-weight season, is the attitude of the manufacturer and selling agent toward another selling period. Those manufacturers who are well sold up are not likely to be so anxious to start on another season, as those who feel the need for further business to keep their mills in operation. While it is true that the majority of manufacturers producing heavy-weights, are fairly well conditioned with regard to orders, others have a considerable distance to go before their product will be taken care of. Generally speaking, however, the desire to obtain early business is probably not as keen as it was last year. If this will have any effect on the date of the opening, remains to be seen. There are those who claim the season should not be inaugurated until after the first of the year. But the majority feel it will be necessary to make trips in December, even though they may not obtain any quantity of business. These trips, they feel, are necessary in order to get a line on the buyer's attitude for another season and to pick up what early business can be secured. It is recognized that buyers usually come to New York in January or early February, but if past experience is any guide, it is also more than likely that the majority of business will be placed at home and that salesmen will have to visit the various markets in order to secure their quota of orders.

Rumors About Future Business

As the time approaches for a new selling period, many rumors are to be heard about individuals and their actions. The present is no exception, and the market is full of reports more or less substantiated as to what is being done and what is likely to be done for the coming heavy-weight season. For instance, one of these reports has it that certain leading manufacturers of heavy-weight ribs are to show their new lines on or about November 15. In the individual cases mentioned, it is reported that the mills involved are sold up practically to the end of the year; and these manufacturers are refusing to promise delivery before next year. But perhaps a more important rumor, if true, is the report that in a few instances agents for leading mills are selling goods on memorandum for delivery next year and are guaranteeing lower prices. This hardly seems like good merchandising, in view of the possibilities of advance; nor does it seem like a good selling argument. The buyer, it would seem, would be inclined to question whether he could afford to operate more or less blindly in the fear that the manufacturer, from whom he was buying goods on memorandum, would not eventually price his merchandise as low as somebody else. If the market should go up, there will always be the question whether the buyer could expect deliveries on goods equal to sample.

This question of delivery is agitating more than one buyer at the present time. If reports are to be credited a certain proportion of the merchandise sold for this fall's delivery, is not being delivered. What the object was in taking business which could not be shipped is hard to fathom. The non-delivery of merchandise, bought in good faith, creates a feeling of ill-will on the part of the buyer, which may take considerable time to eradicate. A great many orders have been passed since the first of September, simply because the seller knew his mill could not make the desired delivery. But in other cases, apparently, this inability to make shipments has not interfered with the acceptance of business.

Shirts and Drawers Predominate

In both woolen and cotton underwear the shirt and drawer business, this year in many cases has exceeded the total of the last few years by a considerable amount. A prominent selling agent declared this week that in all probability he could have sold 500 cases more of shirts and drawers if he had had the manufacturing facilities; but that the mill's product laid out on a basis of previous demand had restricted the output of shirts and drawers, with the result that he was obliged to pass up this amount of business.

It is a pretty difficult matter to explain why there has been this change in the attitude of the buyer. Of course, it must be admitted that his course has been shaped by the demand which has come back from the retailer; and to secure the real reason for shirts and drawers being favored, one must look to the final distributor for the answer. It would perhaps be unwise to generalize on this subject, for the cause of lessened demand for the union suit might be different in one case from that which applied to another. But this much may be said in possible explanation. There are a good many union suits on the market, it is declared, whose measurements are not scientific or correct. The effect which ill-fitting garments have upon the consumer cannot be overestimated. With a few experiences with union suits that are either too small or too large, the ultimate buyer could easily be persuaded to change to shirts and drawers. This may be a matter for earnest consideration by the manufacturer who has not given sufficient research and care to the matter of sizes. Generally accepted standards have been worked out by the underwear association and are easily available to those who want them. Their acceptance might prove very advantageous to union suit manufacturers who may be witnessing the decline in demand for their product mentioned above.

English Cotton Employment

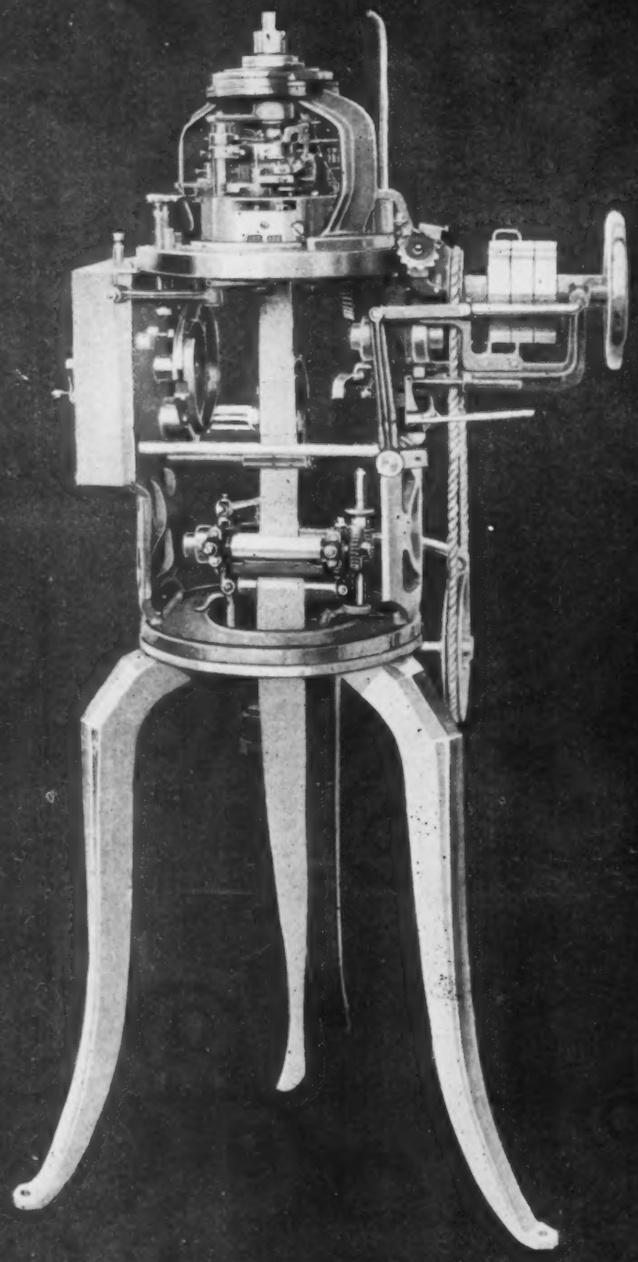
One in 10 Workless, According to Labour Gazette

MANCHESTER, ENGLAND. — According to the British Ministry of Labour Gazette, employment in the cotton trade showed little general change in August as compared with July.

In the American spinning section generally the total production for the month was little more than the equivalent of half-time employment. In the section spinning Egyptian cotton practically full time was worked. In the weaving section employment was poor, and a large number of looms in the principal weaving centres were idle.

The percentage of insured workpeople unemployed, including those temporarily stopped, was 9.9 on Aug. 22, compared with 9.2 on July 25, and with 23.4 on Aug. 23, 1926, when employment was affected by the coal stoppage.

Employment with spinners in the Ashton, Stockport, and Oldham districts remained bad. There was a marked decline at Ashton, and several firms at Glossop extended the trade holidays. There was a temporary improvement at Stockport. Short time was very largely worked in all



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WILDMAN MANUFACTURING COMPANY
Norristown, Pa.

We have issued a new edition of the complete and informative book, "The Science of Knitting." Price $2.00.

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Knit Goods—Continued

these districts, especially at Oldham, where production was estimated at less than 60% of normal, and at Middleton, where the mills were reported to be working half-time. At Royton, however, some firms continued to run full time during the early part of the month.

Manufacturers' Change

In the weaving department at Oldham there was no change, under-employment in various forms continuing to be general. Employment in the spinning department at Bury and at Rochdale remained bad, with much short time, although there was a slight improvement at Rochdale.

Employment with spinners was good at Bolton and Leigh, and fair at Chorley. It was fair with cardroom workers at Bolton. With weavers and winders at Bolton it was fair in some sections, but slack in others. Employment at Preston showed little change. For the first time for some years none of the firms in this district found it necessary to extend their annual holidays.

Several large manufacturers at Preston who have hitherto woven plain goods have adapted themselves for the weaving of other goods for which there is now a better demand.

Employment at Blackburn was irregular. There was a slight reduction in the number of mills entirely closed, but under-employment was very prevalent. Under-employment was also reported from Great Harwood, which had been exceptionally well employed earlier in the year. There was a decided decline at Accrington. Some sheds were closed down for two or three weeks during the month, and weavers and winders were being paid off for indefinite periods.

There was also a decline at Darwen, especially in mills engaged on gray shirtings. Employment with weavers of fancy goods was fair. Several mills were closed for varying periods, and the preparation departments were irregularly employed.

Employment at Burnley declined and was slack. There was an increase in the number of workpeople temporarily stopped. On the other hand there was an improvement at Padiham, where employment was described as fair. At Colne there was a slight decline, and at Nelson no change. At both these places there was much under-employment.

In Yorkshire there was no general change. A number of firms extended their annual holidays.

Returns from firms employing 72,000 work people in the week ended August 27 showed that about 12% of these work people were on short time in that week, with a loss of nearly 17 hours each on the average.

Valatie (N. Y.) Mills Corp. is again operating on full time weekly schedules with some additional help.

Lillian Knitting Mills Co., Albemarle, N. C., has just installed a new boiler in its plant.

Herbert Hosiery Sells Direct

J. P. Quinlan, Former Agent, Opens Offices at 93 Worth St.

Leon S. Herbert, Inc., is the name of the new selling agency which succeeds the Quinlan-Herbert Corp. agents for the product of the Herbert Hosiery Mills, Conshohocken, Pa., manufacturers of infants' socks. This means direct distribution of this output, the new company having taken over the offices of the previous agency on the 11th floor of 93 Worth St. James E. Bryan, formerly with the Superior Underwear Co., Piqua, O., has been appointed sales manager in charge of the New York office.

J. P. Quinlan who has been selling agent for Herbert hosiery for the last five years has opened an office in Room 604, at 93 Worth St. He will represent a number of hosiery accounts including certain very favorable lines of women's seamless and full fashioned goods.

Hosiery Market

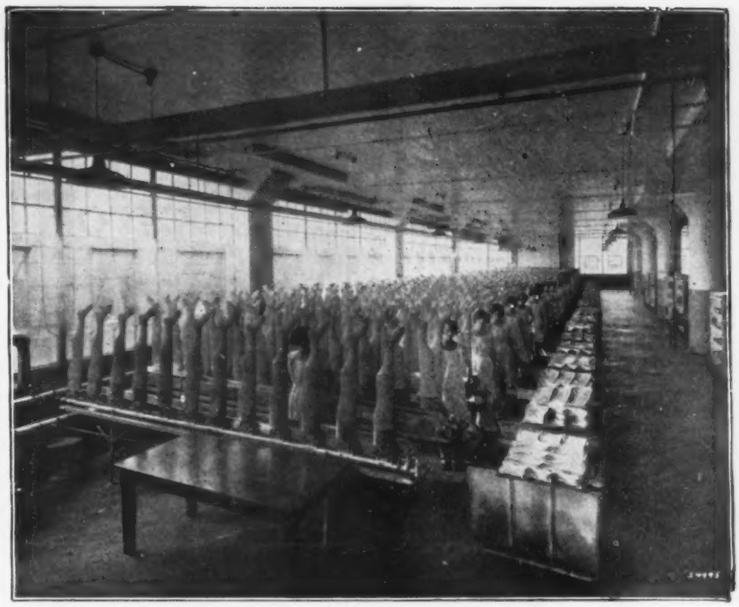
(*Continued from page 179*)

that this business is most satisfactory, for beside the volume of business done, cancellations and returns are very few in number and payment is made in strict accordance with the terms of the contract.

Seamless Hosiery Fair

Demand for cotton seamless hosiery continues on a very fair basis. Both in fancies and staple merchandise, moderate buying is in progress. In fancies there is a tendency in certain quarters—spasmodic it is true—to favor lisle as against fiber goods. Much depends on the character of the trade served by the buyer as to his favoring one or the other type. Instances are not infrequent where a buyer being shown a line of fancies in which rayon is a component part, asks that lisle be substituted for rayon. This is not universal, however, because the exact opposite is sometimes true; the buyer wishes rayon substituted for lisle, so that no general tendency can be outlined. In silk seamless there is growing feeling that the possibilities of the market are being constantly enlarged and that the future will see a greater tendency in the direction of seamless than has been the case in the past. Costs are being reduced, and with up-to-date equipment some very favorable lines are being shown which meet the approval of the trade.

Full-fashioned hosiery is moving moderately—although in certain quarters, reports are to the effect that manufacturers are very well sold up. The raw material situation is by no means stabilized—although it is felt that concessions have been practically concluded and that unless a very decided further drop in raw material occurs, quotations are likely to be generally maintained.



Paramount Low Temperature Water Drying
BY THE
Holeproof Hosiery Co.

"Holeproof" quality is the result of exacting manufacturing standards carefully followed throughout the entire mill and selection of the "Paramount Water Dry Method" by this well-known manufacturer and others, goes far toward proving that a decided improvement has been made in the Art of Drying and Finishing Silk Hosiery and one that will produce a finish never before equalled in the history of textiles.

1. Heat is produced by Hot-Water and temperature is positively controlled at any point selected between 160 and 200 degrees.
2. The desirable qualities of softness and silky richness in the fabric are fully brought out.
3. Fabric strength is increased through preserving the natural oils of the silk.
4. Shiners, finger marks, stitch distortions and creases are eliminated.
5. Shape and character of the hose is maintained, and evenness of color assured in all shades.
6. Ideal room and working conditions.
7. Operative's hands will not callous. Lessened heat keeps them smooth and soft, thus eliminating injury to fabric.

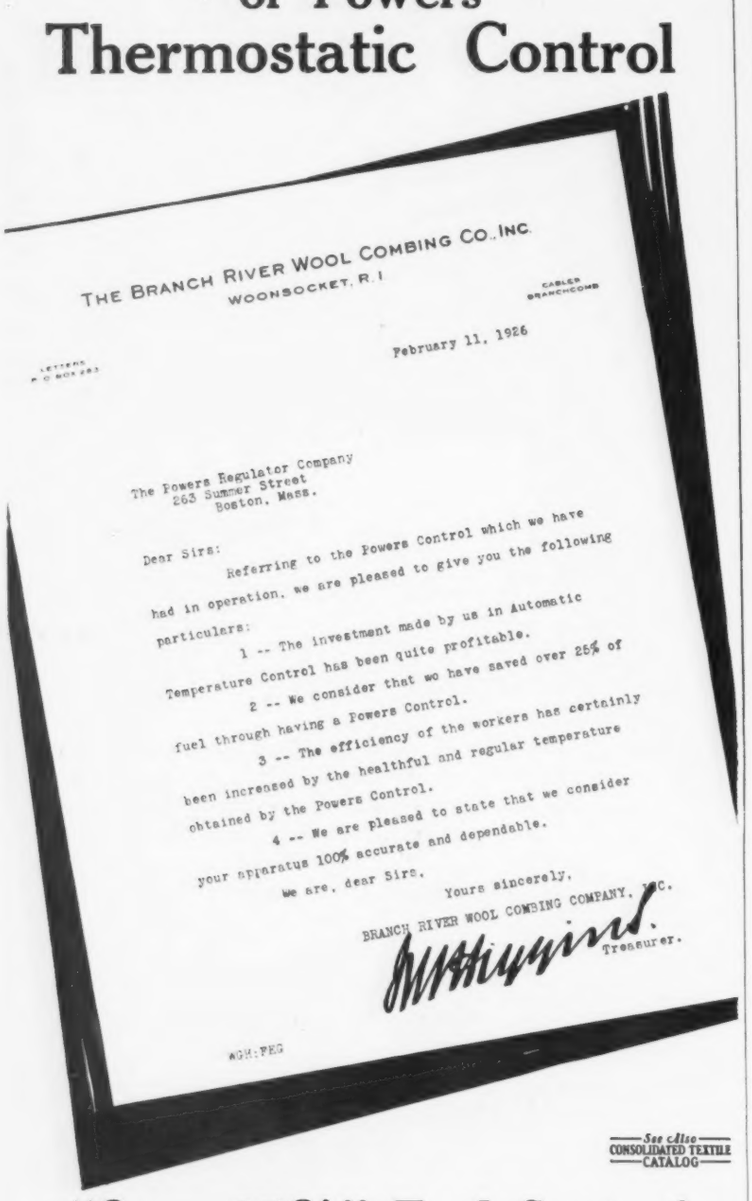
Paramount Steam and Hot-Water Drying Forms—The recognized way of finishing hosiery.

See also CONSOLIDATED TEXTILE CATALOG

PARAMOUNT TEXTILE MACHINERY CO.

Chicago, Illinois.

4 Big Advantages of Powers Thermostatic Control



THE BRANCH RIVER WOOL COMBING CO., INC.
WOONSOCKET, R. I.

February 11, 1926

The Powers Regulator Company
263 Summer Street
Boston, Mass.

Dear Sirs:

Referring to the Powers Control which we have had in operation, we are pleased to give you the following particulars:

1 -- The investment made by us in Automatic Temperature Control has been quite profitable.

2 -- We consider that we have saved over 25% of fuel through having a Powers Control.

3 -- The efficiency of the workers has certainly been increased by the healthful and regular temperature obtained by the Powers Control.

4 -- We are pleased to state that we consider your apparatus 100% accurate and dependable.

We are, dear Sirs,

Yours sincerely,
BRANCH RIVER WOOL COMBING COMPANY, INC.
Treasurer.

AGH:PEG

See also CONSOLIDATED TEXTILE CATALOG

"Over 25%" Fuel Saving!

—Not an unusual record for Powers Automatic Temperature Control. Often a saving of 50% to 56% has been shown in fuel alone, besides the reduction in workers' "time off" for illness.

In from one to five years a Powers Automatic Temperature Control System will pay for itself. Meanwhile in fuel economy, in better satisfied workers, in absolute trouble-free dependability, it will have proved far superior to unsatisfactory hand control.

Write for Book

To executives interested in stopping waste and increasing the profits of their firm, we will be glad to send on request a free copy of our 52-page book "Shop and Office Temperatures." It shows abundant convincing proofs of our claims, in charts, test data, diagrams, and other informative matter. Write for your copy today.

THE POWERS REGULATOR CO.

36 years of specialization in temperature control

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Also New York, Boston, Toronto, and 32 other cities

(4012)

COST REDUCTION
for
TEXTILE MILLS

A type of service that assists in solving the problems which constantly arise in mill operation.

We work with department overseers to bring about Cost Reduction.

BARNES TEXTILE SERVICE.

101 Milk St: Boston

CHOOSING A MILL SITE

Choose your mill site carefully. Plant location is a large factor in successful textile manufacturing. Along the lines of the Central of Georgia Railway in Georgia, Alabama, and the Chattanooga District, there are many plant sites from which to make selection. Studies of this territory reveal a distinctly favorable textile situation.

Investigate what this territory offers. Interesting booklets are available. We shall gladly send copies.

J. M. MALLORY, *General Industrial Agent*

CENTRAL OF GEORGIA RAILWAY

413 Liberty Street, West,
Savannah, Georgia

CENTRAL OF GEORGIA

A Basis for Technical Activity

(*Continued from page* 105)

applied to productive uses there has been a gradual, but none the less definite, retirement of technical personnel into a status secondary, opinionless, timid, and ultimately (being uninformed as to the weightier matters in progress) uncertain.

It is this very uncertainty that has resulted in that the information of the technician has lost character and weight with the deciding factors of management, and the very function and duty he was obliged to fulfill. The result is seen in erroneous bases of formation of sales policy, hesitant attack on certainly potential markets, and stupidly conceived advertising policies that are a joke to the consumer and a byword of ridicule which become casual comment among the readers of the popular press. The real basis of the loss of dignity, and the economic wastage resulting therefrom, in the plan from which is conceived the program of advertising even uniformly meritorious articles of our merchandise, is improper, incomplete and superficially analyzed data regarding the properties, the true function, the limits of adaption and the context potentialities of this merchandise in the whole field of materials offered to the general market.

Lest this seem a dissertation for the ear of the merchant rather than the engineer I desire to point out how the indefinite attitude of approach of a problem has cost the technician the loss of the majority of his utility to the industry in which his knowledge is the only possible safeguard to waste of millions of dollars in productive effort as well as the confidence of the buying public.

Sequence of Effort

The majority of our technicians render service *asked* of them rather than being in a position, by virtue of their all-factor-embracing knowledge of the general situation surrounding any technical matter under discussion, to state with complete assurance all the conditions and pitfalls peculiar to a problem of the particular kind under examination. Nor do they attempt to insist upon that necessary sequence of effort, without which, no technical investigation is worth while. Critics of the sequence I refer to have it that it is too expensive, slow and impractical. My answer to this criticism is that to a competent technician three-quarters of the effort seemingly contained in the steps described as necessary in the attack of any problem can be provided, without recourse to laboratory effort, from the experience and the background of an adequate and worthy expert. The necessary sequence is this:

1. Analysis from the underlying principles of pure science.
2. Survey of the function of the article, in use.
3. Specification.
4. Testing, to confirm specification against function. In other words, testing should follow, not lead, in the list of activities, and research, in its truest sense, precede both.

Several of the outstanding influences, deeply affecting the marketing of manufactured materials, may be mentioned in support of the importance of the schedule outlined above:

a. The importance of exact knowledge regarding supply, price trend, quality, and function of raw materials is the factor upon which depends most of the possibility of lower-price-materials substitution in standard numbers, and not a little of the element of style.

b. Intimate acquaintance with the whole range of properties of materials, in a comparative way, is one of the factors which, again and again, determines profit or loss, running or shutdown.

c. Demand trends, based upon wisely chosen and weighted statistics, are safety insurance to which to key production and investment effort. Nothing can be more pitiful than to see any large organization boasting of efforts in this line while putting forth, at the same time, results supposedly based thereon, which are so far in error, both in basic data and conclusions therefrom that one wonders if both plan and result are not a fantastic advertising dream. If so it is an extremely dangerous conception, and if to this is added glaring errors in underlying principle, the reward for such activity is swift and certain. At least four articles of major merchandise activity in the textile field have fallen into such error during the past year and the latest returns from the study of their sale history make this statement of ultimate outcome a conservative one.

d. The importance of accepted and customary designs, finishes, colors and general appearances as a background consideration in the styling of new numbers must not be neglected or novelty will be a positive deterrent to success.

For the good of the group which holds his loyal service and activities, a technician must require that he be, for them, the medium for the mutual exchange of ideas with his fellows in the profession, that a certain degree of pooling of general experience be a part of the duty of all men so engaged, in order to eliminate the expense of natural disagreements which will rise without such contacts, that technical fact and not compromise be the basis of decision of controversy, and that raw materials and finished products be rated against the properties of *all* the offerings rather than by arbitrarily offered standards of any narrowed group.

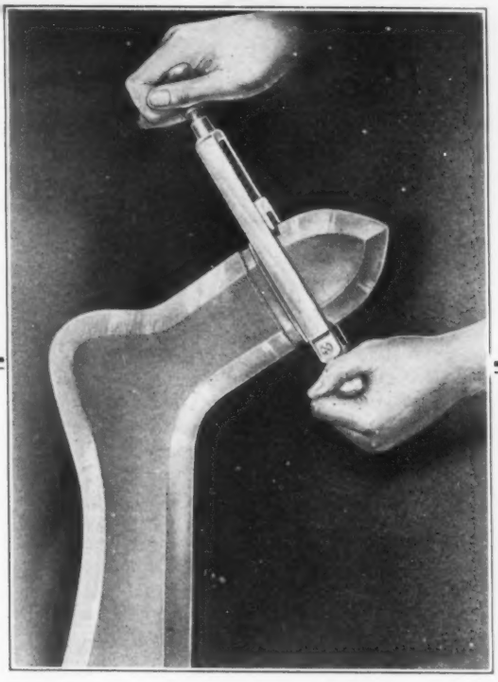
When this ideal is reached the technician is at once counsellor and pillar of industry, and his status of service is so definite as to require no concern on his part or jostling for either advancement or to be heard.

Army Quartermaster Places Contracts for Textiles

PHILADELPHIA. — Quartermaster Depot, U. S. Army, has awarded following contracts for textile materials on which bids were recently opened: 76,650 yds., 36″ olive drab silesia to Geo. Wood Sons Co., Philadelphia, 18.87c per yd., net, delivery of 10% weekly after four weeks. Batavia Mills, New York, received contract for supplying 1,500 yds., linen padding, 24″, 26.1c per yd., net. Award of 1,200 yds. striped sateen, 40″, was made to Moe Rosenberg, New York, 24c per yd., net. Hope Webbing Co., Pawtucket, R. I., will supply 35,200 yds. olive drab 5/8″ olive drab cotton tape, 70c per gross yd., net.

Beauty Silk Mfg. Co., Cobleskill, N. Y., manufacturers of silk jersey cloth, etc., is increasing operations.

Bailey Knitting Mills, Fort Plain, N. Y., are operating near capacity with many additional workers.



THERE'S *NO DELAY* WITH INTERCHANGEABLE TOE SIZES!

With Adjustoe Forms the toes are removable and interchangeable—5 sizes on the same form. These interchangeable toes enable you to make exceptionally fast changes. All you do is slip one toe off and the other on to get the desired size. In changing toe sizes on one set of forms it will be found that by the time you change the last toe in the set the first toe changed will be heated properly for immediate boarding. No delay, no extra forms to heat, no bolts, nuts or screws to tighten. Toe is held in place by friction joint. Note Adjustoe's bevel edge and flat form in above illustration.

The Adjustoe Toe Changer saves time, prevents marring of forms through the use of screw driver or other makeshift devices, protects the hands of the operator from burns—in fact it is the only practical method of handling toe sizes on Adjustoe Forms.

The popularity of Adjustoe Forms is tremendous—and their sales are increasing. They are the most profitable form you can buy. Write today for further information.

We also manufacture all our forms without the Adjustoe feature.

Philadelphia Metal Drying Form Co.

Main Office and Show Room
123-5 N. 5th St., Phila., Pa.

Canadian Representative:
W. J. Westaway Co., Ltd., Hamilton, Ont.

See also CONSOLIDATED TEXTILE CATALOG

Adjustoe
METAL DRYING FORM

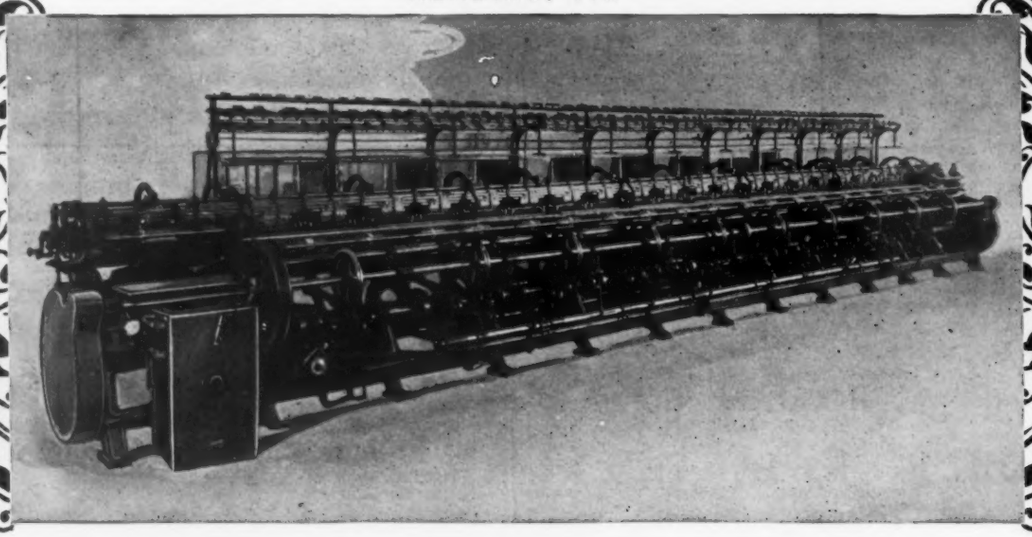
AS FAR AS WELL DRESSED WOMEN ARE CONCERNED THERE *IS* NO OTHER STOCKING BUT FULL-FASHIONED

A Negligible Quantity

An analysis of our sales over the past few years brings to light a condition of particular interest to mill-owners who have reason to consider "maintenance and repair" a matter of importance.

Namely — that the cost of repair parts for Reading Full-Fashioned Knitting Machines is such an insignificant amount as to need no consideration in the upkeep budgets of "Reading" users.

TEXTILE MACHINE WORKS
READING, PA.



See also CONSOLIDATED TEXTILE CATALOG

The READING

FULL-FASHIONED KNITTING MACHINE

FABRICS

Wool Goods Move Slowly

Sellers Watch Concentration on Popular-Priced Goods

THE wool goods market still shows no sign of a hasty return to any very active trading. Buyers are moving along cautiously, and, without anything to stimulate them, they are continuing to let the mill take as much of the responsibility as possible. The rise in raw wool makes an additional problem which remains to be worked out during the next few weeks. It is by no means clear to mill agents that the threat of a small advance in the price of goods would stir up business. The buyer is more interested in styles than prices, and is governed by the volume of what he can distribute in the various price ranges, rather than by inherent values on the primary market.

Concentration of operations for the coming spring season in men's wear has been on the popular priced goods from which to make garments for $22.50 retail. Anticipating that this was the field in which greatest chance for business obtained, many mills put out lines around $2.00. It is a fair estimate that more goods and in greater variety are now offering at around this figure than ever before in the history of the market. One well-informed selling agent this week stated his belief that the loomage scheduled for production of lines in this range has a capacity considerably in excess of the consuming market's likely takings of these cloths. He stressed the fact that this belief did not mean that there was at present an overproduction of these goods, nor will there be, he said, if mill operations are kept close to actual needs. It is apparent that so many looms cannot be expected to run full time and they will either have to turn to something else or curtail.

Lively interest in highly styled goods persists in both men's and women's wear. New ideas in patterns, colors or surface effects are eagerly sought as these have proved to be the most successful stimulators of business that sellers have yet found. Except for the lines which are taken by the whole clothing trade, the leaders must be changed with the seasons. Some few persist and carry over into succeeding seasons. Cloths of this kind make reputations for their producers and reputation helps to hold a clientele.

* * *

Fall Men's Wear: The lower temperature in some parts of the country recently brought a bigger run of business to the retailers which may later be reflected in primary circles. Up to the present the movement of overcoats has been slow. The topcoat trade which started fairly well in September, dropped off before it was fully under way and the possibility now looms that trade will go at once into the heavy coat season without much further interest in topcoats. Filling-in orders from clothiers have been scant and as time passes the chance that they will amount to anything worth while diminishes.

* * *

Women's Wear Woolens: According to one authority there is going to be fair demand through the season for wool goods for women's dresses. Mannish tweeds have been prepared in a number of quarters in answer to this call. Many of them will go into sport suits and to some extent into coats. The newest thing, however, is said to be the tweed dress. After the run on silk and other light fabrics it remains to be seen to what extent the women of the nation take to the heavier cloth dresses.

* * *

Men's Wear Worsteds: Trade is coming to hand slowly on the better grades of worsteds for men's wear. Buyers are uncertain as to the reaction of their customers on color and pattern, and they are waiting for reaction from the retailer on their showings. It is certain that fabrics quite different from those used in popular priced clothing will have a strong vogue, since wearers of the higher priced garments will want something to distinguish them from the wearer of the $22.50 garment. This seems to be the place where the highest grade worsted holds its strongest appeal.

Smith-Hogg Prices on Ginghams, Chambrays, etc.

Smith, Hogg & Co. have made prices as follows on Oct. 24 covering deliveries from November to March:

Red seal zephyrs	32 in.	.21½
York seersucker	32 in.	.21½
Criterion chambray	30 in.	.21½
Berwick chambray	32 in.	.15¾
Yomac gingham	32 in.	.18½
Hipo fine cloth	32 in.	.22½
Kroy krinkle	26 in.	.18½
Clothing seersucker	32 in.	.21½
York Golden Cloth	32 in.	.22
Casco suiting	32 in.	.32½
Yorway suiting	32 in.	.17½
Kashmetta	32 in.	.27½
M. F. cloth	32 in.	.35
Reptylay	32 in.	.27½
Everett classics	26 in.	.13½
Everett classics	32 in.	.16
Sunbrook cloth (rayon)	34½ in.	.67½
Cleone (rayon)	32 in.	.67½

Buyers Let Cottons Drift

Goods Market Needs New Stimulus to Rouse Interest

BUYERS appear quite willing to let the cotton goods market drift along as it will. They continue to show a minimum of interest and it is believed by market students that this period of readjustment must extend further before any new current of activity is uncovered. Buyers as a whole are awaiting some new stimulus to drive them to action.

The raw material has for the time being ceased to be a constructive force on the fabric selling market. During the spring and summer the raw material and the goods market went forward hand in hand, with strong support and gradually rising prices. Now that cotton has met a set-back buyers of goods seem to have lost some of their enthusiasm. Merchants do not believe that for the present price alone will sell their products. A revival of confidence in the future level of the market is needed. The fact that some lines of gray goods appear to be a better buy at present than several weeks ago considering only replacement costs, is an argument that has no weight with the buyer.

Distribution generally continues at a fair rate. Not only are mills making good deliveries, but the various consuming trades and the dry goods jobbers are not letting merchandise accumulate, according to reports. This fundamental condition remains in a healthy state which foreshadows an easy return to stronger sentiment once the necessary stimulus to activity is supplied.

Cotton mill men were interested in buying cotton around 20c when the fiber had crossed that line some weeks ago, but when contracts had dropped below that, it was found that the impulse to buy was not so strong as it had been. In many cases the exchange quotations are deceptive and to acquire actual cotton of suitable grade involves more money than the trading basis. Commission men find that buyers who gauge their ideas on the basis of raw cotton are hard people to deal with at present.

* * *

Ginghams: Prices on leading lines of ginghams were named at the close of last week and early in the current week. They showed advances of ½ to 1½c over last previous levels. This is of course not to be construed as an advance based on the last month or so of the raw cotton market but rather the difference between present replacement costs and those of last spring when the last previous prices were named. At 10½c the new figure on 27-in. staple ginghams, these goods still appear reasonable in view of the general market basis. The regular gingham lines with most mills have been supplemented with novelty lines particularly those which introduce rayon decorations. Several mills have made a great success of plaids on bleached grounds and these are continued for the new season. Prices on this class of goods have been in the making for the last month or more but unstable conditions resulted in delay until better support was promised. On Tuesday of this week the recovery of cotton was a factor which encouraged those who were showing goods to expect more business.

* * *

Gray Goods: The print cloth market has been unstisfactory and the only business passing has been of small compass. There were new low prices heard early in the week before the stiffening in the cotton market, but buyers did not seem impressed. On 64 x 60s, 8¼c was possible though many holders would not quote less than 8⅝c. On sheetings there were reductions of ¼c more or less over the period of a week. Trading has been sluggish but up to the third week in the month prices had rather well resisted the dullness of business and disinterest of buyers.

* * *

Fine Gray Goods: Scattered business was done in fine and fancy gray goods. Mills are holding prices relatively firmly on these goods and buyers who want supplies must pay for them. A number of buyers were seeking concessions and would not place their orders until lower figures are granted them. How this condition will work out of course depends on the trend of business and on the movement of cotton.

Cotton Goods Quotations

	Oct. 26	Oct. 19	Oct. 27, 1926
Spot cotton, N. Y.	21.40¢	20.85¢	12.45¢
Print Cloths			
27- in., 64x60, 7.60	6¼-6¾¢	6¼-6¾¢	4¾-5¼¢
38½-in., 64x60, 5.35	8½-8⅞¢	8½-8⅞¢	6⅝-7¼¢
39- in., 68x72, 4.75	9⅜-9¾¢	9¼-9¾¢	7½-7⅞¢
39- in., 72x76, 4.25	10⅝-10¾¢	10¾-10⅞¢	8⅜-8¾¢
39- in., 80x80, 4.00	11¼¢	11⅛-11½¢	9¼-9⅝¢
Brown Sheetings			
36- in., 56x60, 4.00	10½-10¾¢	10⅝-11¢	8¼-8½¢
36- in., 48x48, 3.00	12⅜¢	12¼¢	9¼-10¢
37- in., 48x48, 4.00	9¢	9¼¢	7¼-7½¢
Pajama Checks			
36½-in., 72x80, 4.70	9¼-9¾¢	9¼-9⅝¢	7¾¢
36½-in., 64x60, 5.75	7½-7¾¢	7⅝-7¾¢	6¼-6¾¢
Miscellaneous			
Drills, 37-in., 3 yd	12¾¢	12¾¢	10½¢
Denims, 2.20s	19¢	19¢	15½¢
Tickings, 8 oz	25-26¢	25-26¢	18½-20¢
Standard prints	8¾¢	8¾¢	8¢
Eastern staple ginghams, 27-in.	10½¢	10¢	9¢

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Fabrics—Continued

Interest in Silks More General

Cutters Buying Includes Many Qualities with Prints Sampled Rather Confidently

IF the quickening in sales of broad silks was still limited to a few qualities, one factor generated a feeling of greater hopefulness and that was the broadening interest shown by the cutting-up trade in silk lines in general. Of itself this could be taken to indicate that the stylists were still wholeheartedly for silk, aided and abetted by Paris which is using silks exclusively, and that the woolens and worsted and rayons held merely an academic interest as far as the coming spring season was concerned. Naturally the dress designers are still searching around for the favored or rather the to-be-favored materials, and there still exists no general unanimity of opinion on this score. The search itself, however, should be the straw that shows the trend. Silks will be the big thing for the next season and the only point to be decided is what will be the precise fabrics.

Included in the list of materials taken last week in the search for the mode was flat crepe, a light weight well woven crepe-de-chine, some printed flat crepes, and finally georgette. The latter, if one had to make a choice, would be accorded the preference for the real big sensation for the coming months. This decision is taken from very good and authoritative sources. Banking on actual orders and the judgment of far seeing silk stylists, two or three of the biggest concerns are going in rather heavily for this number. Included in the georgette family is included the chiffons and voiles which are also being bought.

* * *

Crepe-de-Chine: Market improving with prices showing firmness in the face of still cheaper prices for raw silk. Situation is growing stronger with pure dye materials taking preference.

* * *

Georgette: Going into work in good quantities. The three thread construction is still subnormal due to the quantities of cheap goods around the market and a general lack of interest. Two thread is the coming number apparently unless all signs fail.

* * *

Chiffons: Being made by a number of houses and finding good interest.

* * *

Radiums: Quiet with little interest being shown and mills well prepared for holiday demand. Stocks around market continue to weight down prices. Standard number reported available at under $1.30.

* * *

Prints: Well liked by dress houses making the higher and medium priced lines. Forward orders scarce but sampling is general. No outstanding patterns or pattern types favored as yet as each house brings out its own distinctive designs.

Burlap Is Easier

Prices Are Lower but Business Still Lags

The New York burlap market reported easier prices early in the week on standard constructions. In several quarters it was possible to do 8c on 8s and 10.20c on 10½s. A few transactions were said to have been put through on the lower price levels.

Trading was however fairly quiet though a fair number of inquiries came to hand. Users were beginning to show a little interest which was not helped by the market's lack of strength. A holiday in Calcutta reduced the cable news from the primary market on the first two days of this week.

Spot and nearby 8 oz. 40s were at 8c, November-December shipments at 7.25-7.30c and January-March at 6.95c. Spot and nearby 10½ oz. 40s were at 10.20c, November-December shipments at 9.00 to 9.05c and Jannary-March at 8.70c.

To Set Limits on Weighting of Silks

As the result of a meeting of dyers who are interested in weighting problems, held recently at the headquarters of the Silk Association of America, Inc., New York and Paterson piece dyers who do weighting, are sending letters to their customers this week recommending that in the process of tin weighting piece dyed merchandise, no goods other than raw chiffon should be given more than three passes of tin, or 30 to 40% weighting.

Proper weighting of fabrics enhances the appearance of silk and gives it a rich draping effect which the feminine consumer of today demands in order that her gown may hang gracefully, but it was considered by dyers who attended the meetings that, taking into consideration their own observation and tests which they had conducted to establish a standard figure for all demands, the most satisfactory results are secured on flat crepes, crepe-de-chine and georgette at a weighting of 30 to 40% and adopted a resolution to that effect.

Dyers in both Paterson and New York have been making an effort for some time to stabilize the present condition of a market which is said to show an unprecedented demand for heavier weighted goods similar to that of several years ago in yarn dyed silks.

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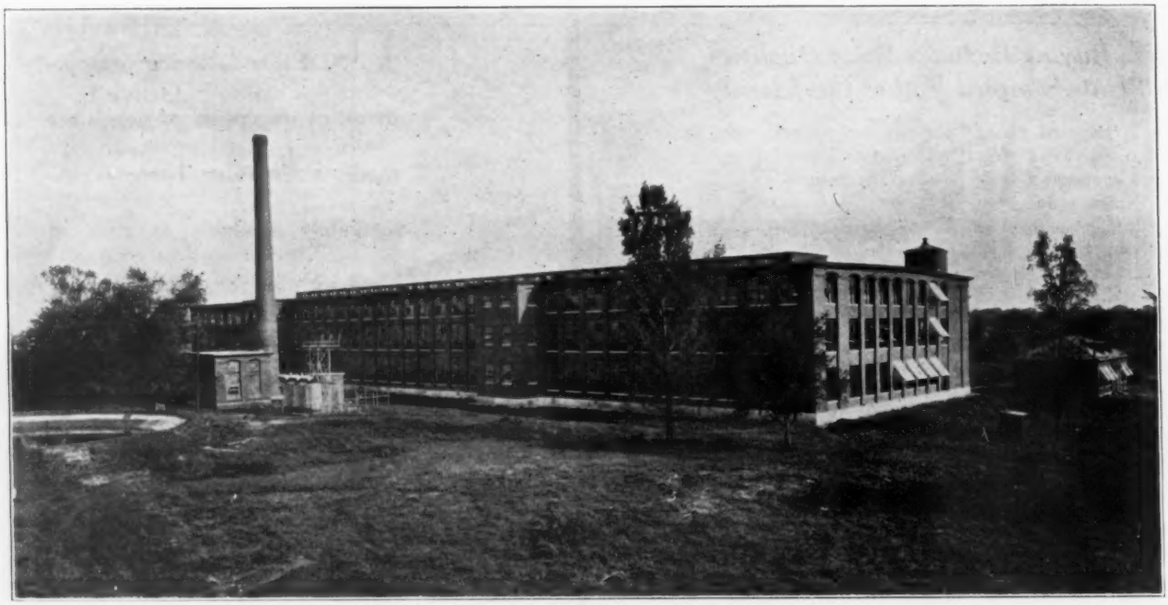

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FINANCIAL

Strong Market for Southern Securities

GREENVILLE, S. C., OCT. 22.—During the week's trading southern textile securities encountered the strongest market of the last few months, according to report issued this morning by Alester G. Furman Co., of Greenville, S. C. Practically all offerings were of limited volume, and were readily absorbed. Preferred stocks received chief attention and there remained at the close an unfilled demand for many of these issues.

The stocks of the Union Buffalo Mills encountered renewed interest because of the dividend action of the board of directors on Thursday. Dividends were declared payable on Nov. 15 at the rate of 3½% on the first preferred, 2½% on the second preferred and 6% on the common. This is the first dividend paid on Union Buffalo common since November, 1923, when the corporation paid a stock dividend of 50% and a cash dividend of 4%. Stockholders of the corporation feel that this payment of the November dividend is amply justified by the favorable operations of the year ending June 30. During that period there showed a net profit of over $1,087,000. On the strength of this showing Union Buffalo common has sold from 40 up to 65 within the last two months.

Dunean Pfd. sold at a high for the year at 101, Judson "A" Pfd. reached 104, and Judson "B" Pfd. sold at 100½. Belton Pfd. held at 98½ and Mollohon Pfd. was quite active at 97.

Among the common shares traded last week, Victor Monaghan was the most active, and was forced up from 105½ of the previous week to a high on Friday of 109. It remained strong at that price. Other issues were strong but less active.

Steady Demand for Better Class Securities

GASTONIA, N. C., OCT. 22.—A continued demand was noted for the better class of southern textile stocks during the week, but on account of limited offerings trading was not so active as in recent weeks. The average in bid price of 25 of the more active common stocks made a net gain of 40c a share during the week, this being the largest advance since the last week in September. The figures as compiled by R. S. Dickson & Co. give the closing in the price of 25 active stocks as $111.48 as compared with the previous close a week ago of $111.08.

American Yarn & Processing, Dunean, Newberry, Dixon, Eagle, Victor-Monaghan, Ware Shoals, Union Buffalo and Woodruff showed gains in the bid price of $1 to $3 a share for the week with offerings scarce.

Appleton To Close Lowell Plant

Will Move More Machinery South—Further Increase in Pacific Earnings

BOSTON, Oct. 25.

THE question of what is to become of the plant of the Amoskeag Mfg. Co. is temporarily overshadowed by contents of the call for special meeting of stockholders of the Appleton Co., operating plants in Lowell, Mass., and Anderson, S. C., to be held at the Boston office next Monday, the directors recommending that the assets and liabilities of the old Appleton Mfg. Co. be merged with the new Appleton Co., that the Anderson plant be expanded to make room for 30,000 spindles and complementary machinery to be moved from Lowell, and that the Lowell plant be closed indefinitely.

Especially significant for the citizens of Lowell and Massachusetts is the following statement of the directors regarding the Lowell mill and real estate: "Their ultimate future will depend on the future of the industry and on the action of the Lowell authorities in regard to taxation and relief from handicapping legislation in Massachusetts." There is little evidence that Massachusetts as a whole is deeply concerned about the continued movement of its medium and coarse count cotton mills to the South but it has become a matter of deep concern for several of its cities and towns. Lowell has received a warning from the Pepperell Mfg. Co. regarding its Massachusetts plant in that city that is very similar to the notice given by the Appleton Co.; the Hamilton Mfg. Co. has passed out of the picture, and so has a large part of the Tremont & Suffolk Mills and the Lawrence Mfg. Co. Should the Appleton and Massachusetts Mills leave the city it would mean a total shrinkage in taxable cotton mill values in that city of approximately 50% as compared with those of three years ago.

Call for Appleton Meeting

The principal articles in the call for the meeting of Appleton Co. stockholders are as follows:

"To see if the stockholders will vote to authorize the directors to dissolve the Appleton Manufacturing Company, the capital stock of which is all owned by this company, and to merge its assets and liabilities with those of this company.

"To see if the stockholders will vote to authorize the directors to expend approximately $780,000 for moving machinery from Lowell to Anderson, S. C., and the erection of the necessary buildings at Anderson.

"To see if the stockholders will vote to authorize the directors to make such disposition as they think wise of the whole or any part of the machinery and equipment of the Appleton Company at Lowell, and to sell the whole or any part of the real property of the company upon such terms and conditions as they deem expedient."

President Walcott's Statement

The statement of President Charles Walcott of the Appleton Co. to stockholders is in large part as follows:

"The Appleton Company owns and operates a mill at Lowell, Mass., and owns all the stock of the Appleton Manufacturing Company, which owns and operates a mill at Anderson, S. C.

"Operations of the mill at Lowell have shown losses each year for the three years ending October 30, 1926. Total losses for the three years amounted to over $2,000,000. For the current year ending October 31, 1927, the result will be less unfavorable, due to the fact that the mill has operated during the greater part of the year on low priced cotton on an advancing market for raw material, but prospects for the future are not encouraging. Cloth such as the Appleton Company manufactures is mainly produced in the South at lower cost of manufacture than is possible at Lowell today. This fact, combined with the present increased cost of cotton, makes it impossible for the mill to operate at a profit, and rather than face the substantial loss which would in all probability result from putting into work cotton at prevailing prices, your management is preparing to suspend operations at the mill at Lowell.

"The mill at Anderson, South Carolina, which contains approximately 30,000 spindles and accompanying looms and other machinery, is now running full time and at a profit. Its product is satisfactory to the trade and is disposed of as produced.

"The mill buildings at Anderson are larger than required for the machinery now installed. By the addition of buildings required principally for storage and for housing additional operatives 30,000 more spindles and accompanying looms can be installed and run at this time. This was the plan when the Anderson mill was acquired originally. It would make the plant more satisfactory to operate and more economical. It will be possible to further increase the mill at Anderson by 30,000 spindles should such an increase later be deemed desirable.

"The plan proposed is to erect the necessary buildings at Anderson and to transfer to Anderson approximately 30,000 spindles and accompanying machinery from Lowell. The total cost of the buildings and equipment, including the cost of moving machinery, will be approximately $780,000. As a result of the closing of the mill at Lowell funds will become available to permit this investment.

"Appleton Company will then be left at Lowell with its mill and other real estate in Lowell and approximately 75,000 spindles. These will be closed down for the present. Their ultimate future will depend on the future of the industry and on the action of the Lowell authorities in regard to taxation, and relief from handicapping legislation in Massachusetts.

"Advantages of the plan are that spindles now idle at Lowell will be run at Anderson and a certain loss converted into a profit, which should at the lowest estimate be sufficient to cover the cost of carrying the idle plant at Lowell, and should ultimately result in the resumption of dividends on the common stock of the company.

"The purpose of this meeting is to submit this plan to the stockholders, and if they approve, to obtain authority to carry it into effect. This is directly covered by the second article in the call for the meeting. The other articles are subsidiary to it. The merging of the Appleton Manufacturing Company with the Appleton Company would be desirable in any event and is necessary for the addition to the southern mill as planned. Authority to directors to dispose of real estate and machinery is necessary because some of the real estate in Lowell will be no longer needed, and taxation on the remaining real estate and machinery may be such that the corporation cannot afford to continue to hold it. The change in the by-laws is to provide for the management of the Anderson plant.

"Your directors are unanimously in favor of the plan and recommend its adoption by the stockholders."

Pacific Reports Increased Earnings

It is reported that the Pacific Mills, operating plants at Lawrence, Mass., Dover, N. H., and Lyman, S. C. have earned as much during the third quarter of the present fiscal year as in the preceding six months. As the net profits for the six months ended June 30 were $709,066, earnings of approximately $1,400,000, after interest and all charges excepting taxes, for the first nine months of the year were approximately $3.50 a share on its 400,000 shares outstanding. Even with full allowance for end-of-the-year adjustments the net profit for the fiscal year

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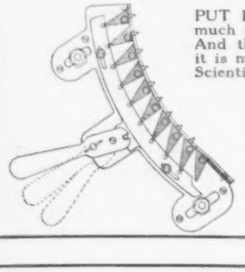

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Financial—Continued

ought to run in excess of $4 a share. The company has shown a loss every year since 1923 when the net aggregated $3,690,912. It is reported that the southern mills are working at 140 and 175% respectively and the southern finishing works at slightly above capacity; the cotton departments at Lawrence and Dover are averaging about 80% of normal production, and the worsted department is being operated about 60% with a steady reduction in the latter's inventory.

United Elastic Corp.

The United Elastic Corp., which was incorporated recently under Massachusetts laws with a capital of 250,000 shares of no par value has filed with the Commissioner of Corporations of that state notice of issuance of 111,495 shares for the following purposes: 11,550 shares to be used in acquiring assets of Conant, Houghton & Co., Inc., and Littleton Mfg. Co.; 56,820 shares for stock of Easthampton Rubber Thread Co., 40,000 shares for stock of the George S. Colton Elastic Web Co., and 3,125 shares for services and expenses in connection with the consolidation of these companies and the Glendale Elastic Fabrics Co. The merger really represents the absorption of the other companies by the Glendale Elastic Fabrics Co., Easthampton, Mass., and the company's general offices will be located there. Judge Edward L. Shaw, president of the Glendale Elastic Fabrics Co., is president of the new corporation; William L. Pitcher of Easthampton is treasurer, and William Astill, formerly treasurer of the Glendale, is plant manager of the new corporation; Glendale Elastic Fabrics Co. had a capital of $1,100,000 consisting of 11,000 shares of $100 par value; during the process of forming the new capital structure capital was increased to $5,000,000, consisting of 250,000 shares of $20 par value, and then these shares were reduced to a no par basis. The stockholders of the Glendale Elastic Fabrics Co. will receive 5 shares in the new corporation for every one held at the time of the merger.

Boston Stock Auctions

The following sales of textile shares were made at Wednesday's auctions:

Shs.	Mill	Par	Price	Change
5	West Boylston, 1st pfd	100	60½	.....
5	Suncook, com	100	17¾	.....
14	Naumkeag	100	180	—7
25	Arlington	100	45	—1
80	Plymouth Cordage	100	95¼	—3¾
5	Indian Orchard	...	115	.....
4	Androscoggin	100	54	—1½
4	Pepperell	100	108½	+ ¾
5	Lancaster, pfd	100	23	.....
5	Bigelow-Hartford, pfd	100	100¾	.....
14	Hamilton Woolen	100	123½	—2½
12	Tremont & Suffolk	100	21¼	—2
60	York	100	25½	— ⅛
10	Boston Mfg. Co., pfd	100	63	.....
22	Acadia	100	7¼	.....
10	Merrimack, com	100	137½	+1
5	Ludlow	100	181	— ½
35	Dartmouth, com	100	8¼	.....
10	Boston Woven Hose, com	100	93⅜	— ½

330 Total.

New England Textile Stocks

(Quotations at "Public Sale" are based upon last sales at Boston public auction and Boston Stock Exchange. Bid and Asked prices are latest quotations of leading Boston dealers.)

	Public Sale	Bid	Asked
Am. Wool pfd	54	...	...
Am. Mfg. pfd	82	81	83
Amoskeag, com.	86¼	...	...
Androscoggin	54	52	56
Arlington	45	45	49
Bates	124¼	120	125
Berkshire Cot.	129	125	130
Bigelow-Htfd., com.	92	...	...
Boott	...	110	115
Edwards	41	80	...
Esmond, pfd.	100¼	100	...
Everett	12¼	11	14
Farr Alpaca	170⅝	172	176
Great Falls	12½	11	13
Hamilton Woolen	12⅜	12	17
Hill	20	15	19
Ipswich, pfd.	...	...	35
Ipswich, com.	16	11	16
Lawrence	67⅛	67	69
Ludlow Asso.	181	180	184
Lyman	165	163	166
Massachusetts	71	...	70
Merrimack, com.	137½	136	...
Nashua, com.	62½	60	63
Nashua, pfd.	95	96	99
Naumkeag	180	...	...
N. E. So. pfd.	4½	...	...
Otis	45	43	45
Pacific	40	...	...
Pepperell	108⅝	108	110
Plymouth Cordage	95¼	...	...
Tremont & Suffolk	21¼	20	23
York	25½	...	...

Fall River Mills Stocks

(Quotations furnished by G. M. Haffords & Co.)

	Bid	Asked
American Linen Co.	...	12
Arkwright Mills	12	...
Barnard Mfg. Co.	30	...
Borden Mfg. Co., Richard	15	...
Border City Mfg. Co.	...	30
Bourne Mills Co.	68	72
Chase Mills	1¾	5
Charlton Mills	95	105
Cornell Mills	...	70
Davis Mills	...	65
Davol Mills	...	22
Flint Mills	..	91
Granite Mills	...	...
King Philip Mills	145	...
Laurel Lake Mills (com.)	...	20
Laurel Lake Mills (pfd.)	...	...
Lincoln Mfg. Co.	50	...
Luther Mfg. Co.	...	112
Mechanics Mills	...	...
Merchants Mfg. Co.	35	...
Narragansett Mills	...	35
Nonquit Spinning Co.	...	...
Osborn Mills	...	...
Parker Mills (com.)	...	...
Pilgrim Mills (com.)	130	...
Pocasset Mfg. Co.	...	...
Sagamore Mfg. Co.	118	125
Seaconnet Mills	...	...
Shove Mills	12	...
Stafford Mills	...	...
Stevens Mfg. Co.	...	...
Troy C. & W. Mfg.	110	...
Union Cotton Mfg. Co.	...	70
Wampanoag Mills	...	20
Weetamoe Mills	...	10

Silk Stocks on N. Y. Exchange

(Week ending Oct. 25)

1927 High	1927 Low	Stock	Sales	High	Low	Last
27¼	15½	Belding Heminway	2,600	22⅝	21⅞	22
16¼	10½	Century Ribbon	400	14	12¾	12⅝
62¾	49	Julius Kayser	6,200	59	58	57⅞
18⅝	11½	H. R. Mallinson	4,300	16⅝	15⅛	15⅛
14⅜	5¾	Van Raalte	100	10	10	10

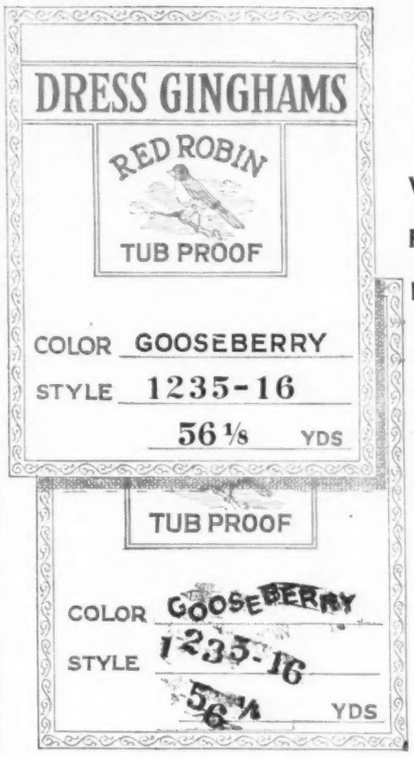
Rayon Stocks on N. Y. Curb

(Week ending Oct. 25)

Stock	Sales	High	Low	Last
Celanese Corp.	10,300	96	89	94
Courtaulds, Ltd.	200	35⅝	35⅝	35⅝
Industrial Rayon	43,200	14	11⅛	12⅝
Tubize Art Silk	1,350	305	298	302

Park Dyeing Co., Philadelphia, Pa. This concern is located at Belgrade & Ontario Sts., being dyers of silk hosiery. Leon A. Du Bois, 523 City Center Bldg., announces that he has purchased the stock of this company formerly held by Chas. Chrstos and Chas. Chrstos, Jr., Mr. Du Bois stating that he now owns a controlling interest in the Park Dyeing Co. Business will be continued along the same lines as heretofore and at the same address. L. A. Du Bois has been elected president of the company.

WHICH IS YOURS?



Color word on the *upper* label was printed with the new American Model 70, which operates like a numbering machine, but has 15 wheels, each engraved with all the letters of the alphabet.

WEATHERPROOFFAB
(one word of fifteen letters)
PERFECTION BLUE
(two words totaling fourteen letters)
DARK JADE GREEN
(three words totaling thirteen letters)

Construction is all-metal, self-inking, giving the fine clear appearance of printing. Wording may be instantly changed; combinations unlimited.

When used in combination with our geared machines for printing the style number and yardages, the effect is the acme of neatness and legibility.

Write for Booklet of our machines for The Textile Industry

Labels and Tickets are all too often like this; compare with one above.

AMERICAN NUMBERING MACHINE CO.
224-230 Shepherd Ave., Brooklyn, N. Y.
***Branch:* 130 W. Madison St., Chicago**

Callaway Mills

INCORPORATED

345 Madison Avenue

Telephone—Murray Hill 7801

NEW YORK

SELLING AGENTS
Unity Cotton Mills
Milstead Manufacturing Co.
Elm City Cotton Mills
Manchester Cotton Mills
Hillside Cotton Mills
Unity Spinning Mills
Villa Rica Cotton Mills
Athens Mfg. Co.

Boston Representative
M. R. ABBOTT
110 Summer Street

Chicago Representative
RAY T. JOHNSON
323 S. Franklin St.

Akron Representative
L. A. WATTS
Second National Building

Johnston Mills Company

"Direct to Consumer"

MERCERIZED YARNS

SINGLES—product of The Elmore Co.

PLY—product of Spinners Processing Co.

These yarns recognized for strength, evenness and lustre, possess knitting and finishing qualities unsurpassed. Complete warehouse stocks carried in leading Textile Centres for quick delivery.

COMBED AND CARDED YARNS

Full range of numbers produced by our own mills from that character of cotton, exactness of twist and count, excellence of workmanship and winding, that insure minimum trouble and maximum production for the knitter and weaver.

SALES OFFICES:

NEW YORK: 93 Worth St. PHILADELPHIA: Public Ledger Bldg.
CHATTANOOGA: 805 James Bldg. CHARLOTTE: Johnston Bldg.
CHICAGO: 688 Adams Franklin Bldg. READING, PA.; 207 Berk Co. Trust Bldg.

J. H. SEPARK
Sec'y and Treas.

J. L. GRAY
Vice-Pres. and Gen. Mgr.

Arlington Cotton Mills
Parkdale Mills, Inc.
Arrow Mills, Inc.
Myrtle Mills, Inc.
Arkray Mills, Inc.
Gray Manufacturing Co.
Flint Manufacturing Co.
Gastonia, North Carolina

Spinners of Fine

Cotton Yarns

Combed Sakelaridis
Combed Peeler
Double Carded Peeler
in sizes
26s to 120s — single and ply for
CONVERTING — KNITTING — WEAVING and ELECTRICAL USAGE
and 16s to 100s — 2, 3, and 4 ply for
THREAD PURPOSES

H. A. Florsheim

General Sales Manager

225 Fifth Ave., New York City

Branches

Boston **Gastonia** **Philadelphia** **Chicago**

THE ELMORE COMPANY
MERCERIZED
YARNS
Spindale
N.C.

Single Yarns
MERCERIZED

Licensed Manufacturer
TINTED YARNS

Bleached, Dyed, Mercerized and Glazed Sewing Threads.

THE ELMORE COMPANY
Spindale, N. C.

Selling Agents
JOHNSTON MILLS COMPANY
NEW YORK: 93 Worth St. PHILADELPHIA: Public Ledger Bldg.
CHATTANOOGA: 805 James Bldg. CHARLOTTE: Johnston Bldg.
READING, PA.
CANADIAN REPRESENTATIVE
Slater & Co., 53 Yonge Street, Toronto, 2, Canada

DIXIE MERCERIZING CO. — STRENGTH — DIXIE — QUALITY — LUSTRE — CHATTANOOGA TENN.

Controlled Manufacture is responsible for the widely recognized fact that

DIXIE
Mercerized Yarns

Excel in Uniformity and Quality

DIXIE MERCERIZING CO.
Spinners and Processors
CHATTANOOGA
Tennessee

COTTON YARNS

Holt Appointed Superintendent Belmont Branch

Judson G. Holt, connected with the Philadelphia office of the Aberfoyle Mfg. Co., has been appointed superintendent of their Southern Division, Belmont, N. C., effective Nov. 1, 1927. Belmont plant of the Aberfoyle Mfg. Co., was formerly operated by the Belmont Processing Co., and was recently acquired by the Aberfoyle Mfg. Co., which is now operating this plant as the Southern Divison of the Aberfoyle Company.

Rowan to Sell Through Cotton Products Co.

Cotton Products Co., Bankers Trust Bldg., Philadelphia, has been appointed selling agents for the Rowan Cotton Mills Co., Salisbury, N. C., spinners of single combed peeler yarns, from 24s to 40s, and starting Nov. 1, 1927 will be in position to offer the trade yarn produced by that concern.

J. F. Trainor to Open Philadelphia Office

John F. Trainor, cotton yarns, New York, will open a direct selling office in Philadelphia beginning with the first of the month.

Small Buying Prevents Rise

Prices of Yarn Remain Nominally Unchanged by Spinners

IN spite of the ginning report on Tuesday, which was construed as a bullish influence upon the cotton market, the yarn situation has not grown any firmer but rather has shown evidences of weakness here and there. It should not be said that the whole list is down but that in individual instances spinners are prepared to name concessions in order to move yarn. As a matter of fact, under the present apathy, it needs considerable decline to interest the buyer. Although the spinner claims he is losing money on yarns at anything below the present level, yet it is apparent a good many are running out of orders and there is a certain amount of accumulation. Particularly in knitting yarns, there seems to be a disposition to name prices which will move this stock; and this division of the market is particularly weak.

Scarcity of Tinged Yarn

One feature of the situation which is causing considerable discussion is the lack of tinged yarn on hand. The purchases of foreign consumers last year, were greater than is generally supposed. As a consequence the carry-over of this character of cotton was reduced to a minimum. With the early picking of the crop this year and the good weather, few tinges, comparatively speaking, were produced. Consequently, the differential between tinged and white yarn is very small. As a matter of fact, it is reported that in instances a higher quotation has been named on tinged than on white yarn of the same count. This means that yarn of this character—especially for the electrical trade—is decidedly high; and spinners who have been in the habit of running largely on this yarn, find themselves unable to secure the material for anything like their ordinary production. If the electrical trade had been active in the last few months, a decidedly critical situation would probably have developed by this time. Even under existing inaction, buyers are complaining about their inability to get the character of yarn they require.

Prices Little Changed

If cotton had continued on the level current before the ginning report, undoubtedly considerable irregularity in prices for yarn would be noted. But to-day, although individual cases are cited where lower figures would be accepted by the spinner, the general average of quotations remains practically unchanged. As a matter of fact, a great many spinners feel they cannot reduce prices without suffering material loss and are determined to hold their yarn rather than sell it without a profit. The reported action of a well-known southern spinner is typical of the attitude in a great many cases. When in the market this week, this spinner declared he would not sell any more yarn for the time being, but that instead he is determined to buy cotton and if the market should ease off, he will continue to buy, averaging down on his costs. This procedure, he declared, is justified in view of his belief that by next spring cotton would touch at least 28c a pound; and although it is hard to appreciate that

Cotton Yarn Quotations

Carded—(Average Quality)

Double carded weav'g and knitt'g yarn 2c to 4c higher, according to quality

Single Skeins or Tubes—(Warp Twist)

4s to 8s	—	—33	20s	—	—37½
10s	—	—33½	24s	—	—39
12s	34	—34½	26s	40	—41
14s	—	—35	30s	—	—43
16s	35½	—36	40s	—	—52

Two-Ply Skeins and Tubes

8s-2	33½	—34	26s-2	41½	—42
10s-2	—	—34½	30s-2	42½	—43
12s-2	35	—35½	36s-2	48	—49
14s-2	36	—36½	40s-2	50	—51
16s-2	36½	—37	40s-2 High breakage	54	—55
20s-2	37	—37½	50s-2	—	—64
24s-2	40	—41	60s-2	—	—74

Single Warps

10s	—	—35	24s	—	—40
12s	—	—35½	26s	40½	—41
14s	36	—36½	30s	42	—43
16s	—	—37	40s	52	—53
20s	—	—37½			

Two-ply Warps

8s-2	—	—34	24s-2	40½	—41
10s-2	34½	—35	26s-2	41½	—42
12s-2	35	—35½	30s-2	43	—43½
14s-2	36	—36½	40s-2 ordinary	50	—52
16s-2	37	—37½	50s-2	—	—65
20s-2	37½	—38½	60s-2	—	—75

8s-3 and 4-ply skeins and tubes; tinged, 29–30; white, 32–33.

Hosiery Cones (Frame Spun)

8s	—	—33	22s	36½	—37
10s	33	—33½	22s (silver Jaeger)	38	—38½
12s	33½	—34	24s	37½	—38
14s	34	—34½	26s	38½	—39
16s	34½	—35	30s tying in	39	—39½
18s	35	—35½	30s extra quality	42	—43
20s	—	—36	40s	50	—51

Combed Peeler—(Average Quality)

Warps, Skeins and Cones

20s-2	—	—50	50s-2	69	—71
30s-2	55	—56	60s-2	77	—79
36s-2	57	—59	70s-2	87½	—90
40s-2	59	—61	80s-2	97½	—1 00

Singles

12s	—	—43½	30s	—	—53
14s	—	—44	38s	58	—59
16s	—	—44½	40s	59	—60
18s	—	—45	50s	70	—72
20s	—	—46	60s	78	—80
24s	—	—48½	70s	90	—92
28s	—	—51½	80s	98	—1 00

Mercerized Cones—(Combed, Ungassed)

26s-2	68	—70	80s-2	1 20	—1 22
30s-2	70	—72	**Singles**		
36s-2	74	—76	30s	—	—1 00
40s-2	76	—78	40s	—	—1 03
45s-2	82	—84	50s	—	—1 08
50s-2	85	—87	60s	—	—1 18
60s-2	95	—97	70s	—	—1 32
70s-2	1 05	—1 07	80s	—	—1 65

Peeler—(Super Quality)

Single Cones

	Carded		Combed			Carded		Combed	
10s	37	—38	48	—49	26s	41	—42	57	—58
14s	38	—39	50	—51	30s	43	—44	60	—62
16s	38½	—39½	51	—52	36s	49	—51	64	—66
18s	39	—40	52	—53	40s	53	—55	67	—70
20s	39½	—40½	54	—55	50s	—	—	75	—80
24s	40	—41	56	—57	60s	—	—	85	—90

Combed Cones, Warps and Tubes

20s-2	54	—56	40s-2	68	—70
24s-2	56	—58	50s-2	75	—80
28s-2	58	—60	60s-2	85	—90
30s-2	60	—62	70s-2	95	—1 00
36s-2	65	—67	80s-2	1 10	—1 15

Combed Reverse Twist Thread Yarns—Skeins, Tubes or Cones, 2, 3, and 4-ply

	Peeler				Sakelarides	
	Average		Best		Average	Best
24s	66	—68	71	—72	88	93
30s	68	—70	74	—75	91	95
36s	70	—72	76	—77	93	98
40s	75	—77	81	—82	98	1 02
45s	80	—82	86	—87	1 03	1 08
50s	85	—87	91	—92	1 08	1 13
60s	95	—97	1 01	—1 02	1 18	1 25

Quotations are average prices of the counts and qualities indicated at the close of business Oct. 26. They do not cover lower or higher qualities unless specifically noted. For New York spot prices, see page 201. For staple cotton prices, see page 203.

COTTON PRODUCTS COMPANY

Bankers Trust Building, Philadelphia, Pa.

Selling Agents for

SOUTHERN MERCERIZING COMPANY
Tryon, N. C.

Single Mercerized Yarns

A. M. SMYRE MFG. CO.
Gastonia, N. C.

Combed Peeler Yarns
30's to 70's

Weaving and Knitting

T.J. PORTER & SONS

MOHAIR, ALPACA
CAMEL HAIR
AND
CASHMERE YARNS
10s to 60s
For Weaving and Knitting

119 SOUTH FOURTH STREET
PHILADELPHIA
BRANCH SALES OFFICES
NEW YORK LOS ANGELES

PRISCILLA SPINNING CO.

Gastonia, N. C.
W. T. Love, *Pres.* J. B. Reeves, *Sec.* S. A. Robinson, *Treas.*

Priscilla Spinning Company Gastonia N.C.

Long Staple Combed Peelers
Warps, Skeins, Tubes, Cones,
one to four plies

For the Weaver or Knitter who is particular —for the man who takes pride in producing a ***better*** fabric or garment—PRISCILLA Yarns have a special appeal.
Their uniformly high quality is a foundation upon which can be built the kind of business that ***sticks.***
Samples and prices cheerfully furnished.

H · A · James
SELLING THE OUTPUT OF OVER 150000 COMBED YARN SPINDLES IN N.C.
GEN. SALES MGR.
450 FOURTH AVE · NEW YORK · PHONES: ASHLAND 3930-31-32

Cotton Yarns—Continued

buyers would operate freely at this level, he predicted that they would be forced to do so. Another spinner's contention is that costs on many counts of yarn to-day are higher than the prices it is possible to secure for them. Based on current prices, this spinner declares 8s single cost 33½c and 14s single 35½c; whereas market quotations are ½c under these figures. This is figuring on yarn made out of middling cotton, whereas strict middling would cost even more.

On typical counts of weaving yarn, efforts to buy below recently quoted figures are not very keen. In other words, where any interest is shown, the consumer is willing to pay 38c for 20s-2 warps and 43c for 30s. Any deviation from these prices is regarded as indicating a certain amount of stock on hand which dealers have not been able to distribute. In spite of the temptation of late to buy yarn for their own account and also in spite of advices from certain spinners that such procedure would be profitable, it cannot definitely be determined that buying of this character has been done. Certainly, if the influences of the agreement not to operate in this way were removed from the situation there probably would have been a good deal of buying by dealers and a repetition of speculative conditions, which characterized the market before the adoption of the Code of Practices.

Knitters Little Interested

Any show of firmness on the part of selling agents causes an absolute withdrawal of requests from the knitter. The latter is not in the market for any quantity of yarn and that which he is considering as a purchase must be below the general level or he is not interested. The consequence is that few transactions are being negotiated. However, there is a feeling that the spinners of knitting yarn may conclude to realize on any stock which they may own; and, as a consequence, irregularities of a decided nature may develop at almost any time.

New Hartford (N. Y.) Cotton Mfg. Corp. is now running on full time schedules in all departments.

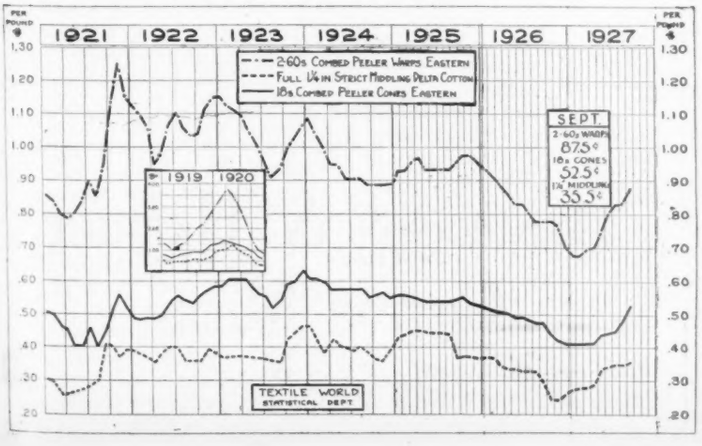
Cotton's Advance Helps

Plenty of Buyers Now at Recent Low Yarn Prices

BOSTON.—There was steadily increasing weakness of prices of medium and coarse count carded cotton yarns until publication of the Government ginning report on Tuesday, and the resultant advance in cotton futures of approximately 100 points. During the earlier period of steadily declining prices the majority of buyers pursued their usual waiting policy, most of their bids being from ½ to 1c below the minimums of most spinners, and comparatively little business being accomplished. Since Tuesday's advance in cotton futures there has been a large increase in demand at the low prices ruling on Monday and on Tuesday prior to the ginning report, and with many buyers raising their bids at least a half cent above the figures at which they could have bought earlier in the week. The majority of spinners, however, have advanced their prices proportionately to the advance in cotton futures, with the result that buyers and sellers are almost as far apart in their price views as they were before the advance in cotton futures.

It is the old story of buyers holding off for further concessions when the market is in their favor, in spite of the fact that the price concessions available were as great as they had been hoping for a week or two previously. However, the attitude of most buyers toward the yarn market has been no different than that of spinners towards the raw cotton market; few of the former are any better covered on cheap yarns than they were a week ago and few of the latter are any better covered with cheap cotton.

Business on combed, mercerized and fine count carded yarns has continued slow and unsatisfactory, notwithstanding the fact that further substantial price concessions have been available on nearly all counts and varieties. Prices have not been as weak as on medium and coarse count carded yarns, but concessions of 1 to 2c per pound have been very generally offered on coarse single combed, as



GROVES MILLS, Inc.

SUPER QUALITY

COTTON YARNS

COMBED PEELER, 24s to 80s, single and plies
CONES, TUBES, SKEINS AND WARPS
Samples and quotations promptly furnished.
SALES OFFICE:
225 FIFTH AVENUE, NEW YORK
MILLS AT GASTONIA, N. C.

VAN COURT CARWITHEN

1518 Walnut Street, Philadelphia, Pa.
Sole Representative

SWIFT SPINNING MILLS
BRADLEY MFG. CO.
MUSCOGEE MFG. CO.
ALL of COLUMBUS, GA.

Whites, Stock, Dyed and Heathers
Cotton Yarns of Quality
FROM MILL DIRECT TO CONSUMER

L. P. Muller & Co.

206 Chestnut Street, PHILADELPHIA
56 Leonard Street, NEW YORK

COTTON YARNS

SPECIAL YARNS
Ratines
Black & Blend Twists
Heathers & Color Twists

FORREST BROTHERS

Forrest Bldg., 119 S. Fourth St., Phila., Pa.

Superior Quality Knitting Yarns

Sole Representatives
Bladenboro Cotton Mills—Vass Cotton Mills
8s to 30s Extra Carded

JAMES E. MITCHELL COMPANY

Cotton and Rayon
YARNS
Philadelphia Boston

THE J. R. MONTGOMERY CO. WINDSOR LOCKS, CONN.
Manufacturers of
MERCERIZED
NOVELTY YARNS Poucle, Bourette and Spirals in Cotton, Wool, Worsted, Mohair and Silk.
COTTON YARNS Give the high Silk-like lustre In Knit Goods and Woven Fabrics
COTTON WARPS On Beams, Jacks, Spools and Tubes In Fancy Twist, Colors and Printed

GATE CITY COTTON MILLS
Manufacturers of
Superior Quality
WHITE KNITTING YARN on CONES
We sell direct to Knitters and guarantee satisfaction
P. O. Box 1677 ATLANTA, GA.

"Try It and You Too, Will Buy It"

VELBLADE PLUSH YARNS

$2,000,000 Spent in Building

Bladenboro's New Plush Yarn Mill No. 3 equipped with specially designed machinery, was not the only thing necessary to produce VELBLADE QUALITY PLUSH YARNS such as leading Plush Manufacturers demand and must have—KNOWLEDGE in the spinning of these yarns, expert grading, sorting and mixing of cotton, untiring laboratory tests also come in for their share of credit in the manufacture of VELBLADE PLUSH YARNS.

THE

BLADENBORO COTTON MILLS

INC.

Write for Samples 10/2 to 30/2

Sales Offices and Representatives

FORREST BROS.

119 So. 4th St.

FORREST BLDG., PHILADELPHIA, PA.

Quality Spinning and Mercerizing

Best mercerizing results are obtained on combed yarns spun from carefully selected cotton, under efficient supervision, in modern mills.

STANDARD MERCERIZED YARNS reflect these characteristics.

STANDARD - COOSA - THATCHER CO.
Chattanooga, Tenn.
Sales Offices Lafayette Bldg., Philadelphia
456 Fourth Ave., New York City
Canadian Representative
Wm. B. Stewart & Sons, Ltd., Toronto, Montreal

Standard
Mercerized Yarn

DEPENDABLE
YARNS

Spun from selected cotton

Cotton Yarns of
Unvarying Quality for
Knitting (underwear and hosiery)
and Weaving

Cones, Skeins, Tubes
8s to 30s single; 8s to 16s ply

WINTHROP MINCHER
N. Y. State Rep., *Troy, N. Y.*

HENDERSON & HARRIET
COTTON MILLS

Henderson, N. C.

Cotton Yarns—Continued

well as on the finer counts of combed yarns. The fact that the basis on extra staple cottons is a little easier is an incentive to price cutting; yet, as an actual fact, only on the highest grades of combed and fine count carded yarns do present prices equal replacement costs plus a fair profit. Since Tuesday's advance in cotton futures this part of the yarn market, as well as the medium and coarse count carded yarn section, has displayed greater price firmness, yet few buyers have followed the advance and the majority continue a hand-to-mouth policy of operating.

October Yarn Volume Fair

Billings This Month Large —Hand-to-Mouth Trading

PHILADELPHIA.

OCTOBER has been a fair month so far as new business is concerned and a good one in point of shipments and billings made, the latter being as large as any month this year according to a majority of dealers here. The most active trading of October has been seen during the latter half and especially during the last ten days. Volume of sales of the month has been larger than anticipated due to the character of buying followed by manufacturers. Cotton and yarn prices ranged higher than they had previously paid, and manufacturers followed a hand-to-mouth buying policy so that day to day sales appeared small at the time; but when added at the end of the week represented fair trading. Forward buying has been conspicuous by its absence with one exception, that being in case of up-state underwear manufacturers, many of whom have placed contracts this month calling for deliveries to be made beyond the first quarter in 1928.

Contracts in extra-quality for underwear trade have been placed on a basis of 42c to 43c for 30s,, the manufacturer covering a portion of their light-weight yarn requirements. Weavers on the other hand, with the exception of plush manufacturers, have been buying from week to week and for this reason dealers look forward to a continuance of buying by these mills throughout the remaining months of the year, to cover their needs for winter merchandise, this being normally the most active months of the year for yarn sales.

October Below September

October new business has not been as large as that placed the previous month although it will compare favorably with it in a majority of instances. The latter half of the month especially has seen keener competition among spinners of weaving yarns and extremely low prices have been quoted during the last week, notwithstanding firmness imparted to the market by the rise in cotton after the publication of ginning report on Tuesday which indicated ginnings as of Oct. 18 of 8,118,976 bales. Early in the week medium sized sales of 20s-2 warps of ordinary quality were made at 37c and there have been rumors of sales of this count being made half cent under that figure; while 30s-2 warps of the same quality have sold at 41½c as the low mark although spinners were quoting these counts and in the same quality at 38c for 20s-2 and 43c for 30s-2 warps at the time these sales were made.

Based on prices spinners are compelled to pay for cotton, with premiums added for longer staples if required, there is little profit in such sales for spinners basing their cost on current cotton prices. Those who are fortunate enough to have lower priced cotton in their warehouses and in need of business at this time are given credit for booking orders at such prices, generally considered a cent under the market level.

Low Priced Sales Reported

Under conditions such as we have experienced during the month where manufacturers are only interested in small lots at a time and immediate delivery wanted, lowest prices such as the above are given more importance than they justify. While spinners admit 20s-2 warps have sold at lower prices than 37c and that 30s-2 warps have sold as low as 41½c, they assert no large quantity has been moved at this basis and that if the manufacturer wanted an important sized lot from spinners such prices would not be obtainable and they would be compelled to pay at least a cent more. Many spinners have during the recent easing of prices continued to quote these counts at their former level, quoting 20s-2 at 38c and 30s-2 at 43c, persistently refusing to accept business under this level.

Plush yarns have remained steady during the week and a number of large sales have been made, this trade having been taking yarn actively during the month, most recent sales being made on the basis of 45c for 30s-2 which is a cent lower than previous quotations and sales. These yarns are becoming more competitive due to the entrance of a number of spinners to the plush yarn field that heretofore spun ordinary grades for other trades and spinners state the margin of profit in plush yarns is gradually being reduced as compared with that possible when only a limited number of spinners catered to this trade, which has developed into such a large outlet for high grade carded weaving counts.

Slow Trading in Combed

While October has been a fair month for carded it has been a com-

CANNON YARNS

Cotton Yarns
of Quality

Responsibility

We consider our responsibility does not end when the contract is signed—It only begins then, and because CANNON YARNS are sold on a basis of QUALITY, and are the product of our own Mills, this responsibility is more than an idle promise.

This protection is worth the slight difference in cost.

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Reading, Pa. Chicago Utica, N. Y.
Chattanooga

THE STANDARD OF VALUE & QUALITY

A Healthy Companion

GIVE your rayon a strong-hearted companion — a well processed cotton yarn, two-ply and mercerized. . . .

Weave the two yarns together — they're quite alike in working properties. Both demand the same atmospheric conditions. . . . Then the fabric holds greater strength, presents a more pleasing lustre. . . . *Try National.*

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Quality Mercerized, Dyed and Bleached Yarns

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ALL COUNTS AND DESCRIPTIONS FOR THE KNITTING-WEAVING-CONVERTING TRADE

REPRESENTING DIXIE MERCERIZING CO. CHATTANOOGA TENN. LUSTRE

CONTROLLED MANUFACTURE

IN NORTH CAROLINA

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6s to 10s THREE to THIRTY PLY

When Better Carpet Yarns Are Spun
Wabena Will Spin Them

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WABENA MILLS, INC.
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How Much Noil?

WHEN the needles of your combers remove the foreign matter, *how much noil do they waste?* It's the way the reneedling of the half laps and top combs is done that makes the decision. Reneedling by trained fingers will give you comber sliver free from specks and seed particles . . . and with so much *less* noil taken along . . .

You'll find our fingers well trained in reneedling and repairing. You'll find our service far from slow! *Write us.*

GASTONIA COMBER NEEDLING CO.
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The Halliwell Company

Dyers, Bleachers and Mercerizers of Cotton Yarns in Warps or Skeins

Fast Colors A Specialty — High Class Mercerizing in warps Only

A new plant, latest and most modern machinery and equipment, backed by thirty-five years of specialized experience, guarantees service and satisfaction.

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QUALITY FIRST

American Thread Company

YARNS

James Austin & Son

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ANY COUNT OR VARIETY
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Advice Based on Our Experience of Thirty Years in Bleaching, Dyeing, Mercerizing, Etc., at Your Service

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SOLWAY DYEING & TEXTILE CO.

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ABSOLUTELY FAST COLORS

FIBRE HEAD SPOOLS

"As Good as the Best"

PASSAIC BOBBIN CO., Inc., Paterson, N. J.

Cotton Yarns—Continued

paratively poor one for dealers specializing in combed peeler and for mercerizers so far as new business is concerned. Lack of satisfactory volume of business in combed yarns is seen in downward trend of prices, which have declined to a greater extent than the action of staple cotton has warranted, several counts as used by mercerizing trade having declined five cents during the month. Mercerizers have not been taking large quantities of yarn in the gray from local dealers this month and trading with weavers has also been spotty; as a result a number of combed spinners are in need of business at this time to permit them to continue operating at their recent rate. They are willing to compromise on prices to obtain this, it being possible to buy 60s-2, 70s-2 and 80s-2 lower than was possible last week.

There has been little interest in mercerized yarns this week and the month of October has been a small one so far as new contracts are concerned, last spurt in buying having occurred early in September. This is in accordance with predictions made by mercerizers recently who stated they looked for only filling-in business for the balance of this year due to the fact many of their customers had covered their needs into next year and at the same time were not specifying on these contracts as rapidly as expected. Mercerizers in many instances are running 60% at this time although they have a fair to large volume of business in hand, due to lack of specifications on contracts.

Declines in Chattanooga Yarn Market

CHATTANOOGA, TENN. — Declines featured the local yarn market for the week ending Oct. 22. The reductions applied to practically every count of yarn and ranged from 1 to 5c or more, local brokers state. Thrown silk, however, remained at about the same figures as for the previous week ranging in price from $5.45 to $5.50 a lb.

There was a blanket reduction of about 5c a lb. in the price of single ply mercerized yarn, which applied to all counts. In the 60s-2 mercerized the price was dropped by a leading broker from 99 to 95c. Eighties were reduced to $1.20 and 70s to $1.05. In carded cones, the price is off about 1c, quotations on 10s being 33 to 34c and on 20s 35½ to 36½c.

Combed singles showed considerable revision during the week as 18s were reduced 2c to 43 to 45c and 70s dropped to 87½ to 90c.

There was only an average amount of activity during the week. In this respect there has been little change for some time.

Monogram Silk Mills, Inc., Paterson, N. J.; an action in insolvency in the Court of Chancery has been brought against this company, on petition of the Florine Silk Co.

Cotton Waste Less Active

Prices a Trifle Lower—Single Spooler in Demand

BOSTON.—The cotton waste situation has been a little hesitant during the past few days. Consumers are fairly well covered on supplies and under the circumstances are more inclined to kick about high prices. It is a seller's market in a general way but the cotton situation is still uncertain enough as to final yield to inject caution into merchandising operations. While there is some disposition to meet the market not a few, and some of the largest holders, are sitting on their holdings awaiting better prices. There is no change in the general character of the demand.

Threads and strips are leading in interest and activity. Both these classes of materials are selling at firm prices. Comber on the other hand is quiet though held to a firm high price. Picker and fly are moving a little more freely. Mill sweeps and similar low-grade commodities are very slow. In the Manchester market all classes of wastes are firm but there is only a quiet business in progress, consumers acting cautiously. Supplies at the moment are not plentiful owing to the large number of looms idle in Northeast Lancashire. New contracts are being entered into very carefully. The general position is regarded as healthy with the prospect of a steady trade. The chief fear is that there may possibly be a decline in values between now and the end of the year and at the moment the high prices asked for American wastes do not seem attractive.

Cotton has now receded from its high point of the year approximately 20% and wastes have followed in general the downward movement, though to a lesser degree. As cotton drops wastes sag and some of them may even resist the decline in cotton and make a little movement of their own. Cotton will have to decline quite a little more before any price weakness is likely to be registered in threads, good strips and comber. Single spooler is very firm and in good demand with a little export business being done with the Manchester market around 15½c delivered. Various prices are being named on the several threads, fluctuations however being little else than the usual differences seen between buyers and sellers.

Current Quotations

Peeler comber	19 —19½c.
Peeler strips	17½—18c.
Egyptain comber	16½—17c.
Choice willowed fly	8 — 8½c.
Choice willowed picker	6 — 6½c.
Sak. strips	19 —20c.
Linters (mill run)	5 — 6c.
Spoolers (single)	13½—14½c.
Fine White cop	15 —15½c.

Columbia Mills, Inc., Minetto, N. Y. The addition to this plant recently completed by the Aberthaw Construction Co., Boston, Mass., is being equipped with machinery and will go into production within six weeks, it is said.

J. B. JAMIESON COMPANY
COTTON YARNS
77 SUMMER ST. BOSTON, MASS.

ROCKFISH MILLS, Inc.
456 Fourth Avenue
New York, N. Y.
H. Gray Dolliver, Sales Mgr. Phone: Ashland 4342
High-grade Karded Peeler Yarns, 12's to 40's—Skeins, Cones or Warps. Reverse Thread Yarns, 30's to 36's, two and three ply—Skeins or Cones.
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WHITE and COLORED SINGLE and PLY
Cotton Yarn and Warps, Carded and Combed SELL DIRECT

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COTTON YARNS
Carded and Combed—Gassed and Ungassed

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HIGH GRADE COTTON YARNS, White, Colors, Bleached
On Beams, Jack Spools, Cones, Skeins and Chain Warps
FAST-BLACKS & COLORS For Woolen Mills a Specialty WE SELL DIRECT

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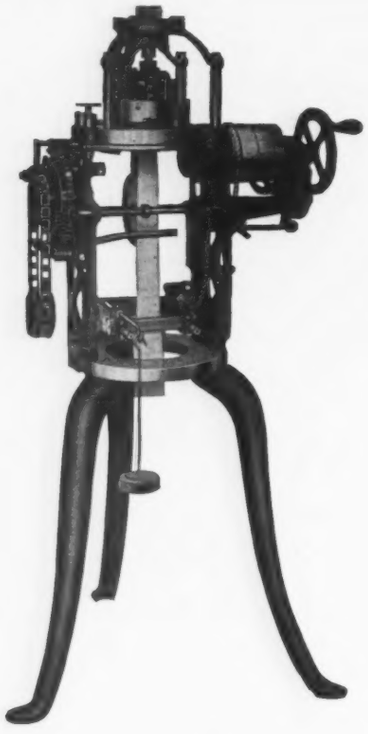
Specialists in Mercerized Yarns CHESTER, PA.
Warp Mercerizing for the Trade
Gassed—Natural—Bleached—Colors
DOUBLE MERCERIZED SPECIAL PROCESS



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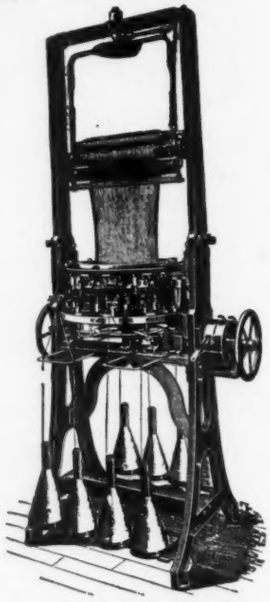

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Our flat machine is adapted for knitting collarettes.

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This machine is made in sizes from 13" to 26" in diameter of any desired gauge, the number of feeds depending on the size of cylinders. Also built in sizes from 2½" to 32" in diameter for the production of a great variety of fabrics.
Aside from the feeds for plain fabrics, the stockinet, elderdown and astrachan feeds are superior to any on the market.

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Made in sizes from 7⅝" to 20⅝" inclusive, of any desired gauge; these measurements being back to back of cylinder needles.
The fabrics from this machine are used for bathing suits, theatricals and athletic goods.
These machines are second to none on the market.
The Crawford stop-motion is applied when requested.

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CRANE MANUFACTURING CO., Lakeport, N. H.

COTTON

Decline Checked by Ginnings

Smaller Figures Than Expected Led to Scaling Down of Recent Crop Estimates

THE decline in the cotton market was checked by the publication of the Census Report on ginnings prior to Oct. 18. Before this report appeared, the market had sold off to 19.42 for December contracts and 19.67 for March on Monday, making a decline of about 5¼c a pound from the high prices of Sept. 8. The Census Report showing 8,118,978 bales of cotton ginned prior to Oct. 18, was evidently below the expectation of recent sellers and was followed by an advance of about a cent a pound in prices on Tuesday, with a further gain of about 30 points on Wednesday, making a recovery of approximately 130 to 140 points from the lowest. The bullish excitement engendered by the Census figures seemed to subside at these prices, and the volume of business tapered off but realizing sales were absorbed on comparatively modest reactions.

It would appear that these ginning returns had checked the recent trend of sentiment toward the acceptances of larger crop estimates. Owing to the good weather during the greater part of September and October, a feeling had developed among local traders that the crop was likely to exceed the Government's Oct. 1 crop indication of 12,678,000 bales. This idea as to the improvement in the crop outlook, however, was accompanied by a feeling that ginnings prior to Oct. 18 would represent a comparatively large percentage of the crop and probably exceed 8¼ million bales. The actual ginnings falling below expectations, appeared more consistent with the last official indication than with recently increased private estimates, in the opinion of some local traders, at least, and while there were differences of opinion in this respect, it was the bullish view which evidently dominated the market. It was pointed out in this connection that the ginnings reported represented about 64% of the Government's crop indication, and attention was drawn to the fact that during the three previous boll weevil years in 1921, 1922 and 1923, ginnings prior to Oct. 18 representing from 63 to 71.7% of the crop, averaging in the neighborhood of 67%. On the basis of these particular comparisons, the ginnings could have been interpreted as pointing to a crop even smaller than the Oct. 1 indication, and that they had a considerable influence, was quite clearly indicated by the action of the market.

Trade buying was active on the declines which preceded the Census report and some buying was reported for European account after its publication, but in the opinion of people who watch the futures market here very closely, trade demand was less responsible than covering and speculative buying for the advance.

The following table shows Wednesday's closing quotations in the leading spot markets of the country, with the usual comparisons:

Market	Oct. 19	Oct. 26	Ch'ge	Last year	Sales
Galveston	20.45	21.30	+85	12.30	11,268
New Orleans	20.40	21.18	+78	12.18	34,822
Mobile	19.90	20.80	+90	11.45	931
Savannah	20.19	21.17	+98	11.81	2,632
Norfolk	20.69	21.50	+81	11.94	2,561
New York	20.85	21.40	+45	12.45	3,351
Augusta	20.19	21.00	+81	11.69	2,401
Memphis	19.45	20.50	+65	12.25	26,779
St. Louis	19.75	19.75	....	12.50	.....
Houston	20.35	21.20	+85	12.20	83,280
Dallas	19.65	20.55	+90	11.20	81,479

The following differences on and off middling are given as compiled from the report received by the New York Cotton Exchange. The cotton grades marked ** are not deliverable on contract.

	Dallas	Memphis	Montgomery	Augusta	Average †
WHITE GRADES					
M. F	1.50†	1.25†	1.25†	.90†	1.26†
S. G. M	1.25†	1.00†	1.00†	.75†	1.03†
G. M	1.00†	.75†	.75†	.63†	.73†
S. M	.50†	.50†	.50†	.50†	.49†
S. L. M	1.00*	1.00*	1.00*	1.00*	1.02*
L. M	2.25*	2.25*	2.00*	2.00*	2.13*
S. G. O.**	3.50*	3.50*	3.25*	3.25*	3.33*
G. O	4.75*	4.50*	4.25*	4.50*	4.48*
YELLOW TINGED					
G. M	.75*	.75*	.25*	.50*	.56*
S. M	1.00*	1.25*	1.00*	1.00*	1.00*
M.**	2.25*	2.25*	2.00*	2.00*	2.05*
S. L. M.**	3.50*	3.50*	3.25*	3.50*	3.34*
L. M**	4.75*	4.75*	4.50*	4.75*	4.59*
YELLOW STAINED					
G. M	2.00*	2.00*	2.00*	2.00*	1.95*
S. M.**	2.50*	2.50*	2.50*	2.50*	2.48*
M.**	3.25*	3.50*	3.25*	3.25*	3.28*
BLUE STAINED					
G. M.*	2.00*	2.50*	2.00*	2.00*	2.03*
S. M.*	2.75*	3.25*	2.75*	2.75*	2.73*
M.**	3.50*	3.50*	3.75*	3.75*	2.59*

* Off middling. † On middling.

Cotton Statistical Data
(Fluctuations of Futures)

	Closed Oct. 20	For week High	For week Low	Closed Oct. 26	Net Change
October	19.59	20.18	19.33	.....	.....
November	19.62	20.32	19.41	20.92	+1.30
December	19.65	20.47	19.42	21.00	+1.35
January	19.65	20.55	19.50	21.08	+1.43
February	19.77	20.60	19.61	21.18	+1.41
March	19.89	20.74	19.67	21.28	+1.39
April	19.99	20.78	19.80	21.34	+1.35
May	20.09	20.90	19.84	21.45	+1.34
June	20.02	20.83	19.83	21.42	+1.40
July	19.95	20.78	19.74	21.40	+1.45
August	.....	20.53	19.53	21.10	.....
September	.....	20.28	19.20	20.80	.....

Spot Fluctuations for Week
(Middling)

	New York	N. Orleans	Liverpool
Friday, Oct. 21	20.00c	19.83c	.....
Saturday, Oct. 22	20.00c	19.90c	.....
Monday, Oct. 24	19.90c	19.68c	.....
Tuesday, Oct. 25	20.80c	20.68c	10.88d
Wednesday, Oct. 26	21.40c	21.18c	11.46d
Thursday, Oct. 27	21.15c	21.09c	11.80d

Spot Fluctuations and Stocks

	Prices Oct. 26	Stocks This week	Stocks Last year
Galveston	21.30	530,452	615,335
New Orleans	21.18	368,299	483,911
Mobile	20.80	56,969	49,861
Savannah	21.17	94,933	189,082
Norfolk	21.50	53,114	79,663
New York	21.40	217,406	104,199
Houston	21.20	768,717	656,236
Augusta	21.00	120,622	108,951
Memphis	20.50	190,176	260,866
St. Louis	19.75	421	8,588
Little Rock	20.50	29,796	64,567

Caterers to the Style Goddess

The complete range of yarns at Quissett is helpful in keeping step with the onward march of style in cotton fabrics. Here there is variety from the ground up.

We use six different varieties of raw cotton—all of top notch quality. Counts are available from 3s to 120s—any twist—any put-up. So versatile is our production that Quissett Yarns are used for underwear, hosiery, threads, embroidery, weaving, tire fabrics, insulating, lace work, etc.

To have a yarn source like Quissett is to seldom experience difficulty in promptly dispatching a new line. Quissett Yarns are of vital aid in getting a distinctive style fabric off to a flying start.

Carded and Combed Cotton Yarns in all Numbers and Descriptions.
Ply Yarns our Specialty.
Egyptians, Sea Island, Peelers, Sakelarides, Pimas and Peruvians.

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New Bedford, Mass.

Wm. M. Butler, Pres.
Edward H. Cook, Treas.
Thomas F. Glennon, Agent

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Seventy-six years of Brush Making

¶ Seventy-six years of successful manufacturing in any line is a pretty good assurance of a meritorious product.

¶ Since 1849 we have been manufacturing mill and machine brushes for every textile requirement.

¶ And this record is but the foundation upon which we plan to build an even more successful future.

¶ But doesn't it warrant your investigating right now the reason for this long continued and constantly increasing popularity of Mason Brushes.

¶ A trial order will tell the story.

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77 Summer Street, Boston, Mass.
Established 1870 Incorporated 1890

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Established 1860. Incorporated 1905 LET US SUPPLY YOU

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Use one—it pays

Particular attention paid to Special Job Work and General Repair Work

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Dixon's Patent Reversible and Locking in Back Saddle with New Oiling Device, three Saddles in one, also Dixon's Patent Round Head Stirrup.

Send for samples to
DIXON LUBRICATING SADDLE CO., Bristol, R. I.

Cotton—Continued

Spotty Cotton Market

Staples Flat but Interest Continues in Inch Cotton

MEMPHIS, TENN., Oct. 24.—Demand for middling and better cotton up to scant 1 1/16" continues active in this market, but it was the dullest week of the season for staples. Interest in extra long staples is almost nil and is not much better than that for high grade staples in any length. The supply of extra lengths appears to be somewhat larger than usual and may account in part at least for the waiting attitude of buyers. Inquiry for low middling and strict low middling staples is very good, but actual business resulting is small because the supply up to the present time is limited and with favorable weather for two or three weeks longer and the rapid harvesting of the crop may fall far short of forward sales by shippers.

Ginning is just now getting well under way in some flood districts of the Yazoo Basin, but Mississippi on the whole is probably farther advanced with its ginnings than ever before in its history. Arkansas, Missouri and Tennessee are about normally late. Shippers short the lower grade stapes are paying a very high basis in their efforts to cover; strict low middling is bringing nearly as much as middling. While basis on extra staples and on the high grades has weakened as a result of poor demand, the majority of holders show no disposition to sell at what they consider sacrifice prices; they are encouraged to hold by the belief that the total crop of the delta will be comparatively small.

Memphis stocks are growing rapidly, due in part to concentration here by large interests who concentrated at other points last year. Sales were reported during the week at the following prices: Strict middling 1 3/16" at 25½c, middling 24½c, average better than middling, shy 1 3/16" 485 on December, strict low middling, middling color, 1 3/16" at 425 on, strict low middling, middling color, 1⅛ to full, 300 on, strict low middling full 1⅛" 23¼c, strict middling, shy 1⅛" 500 on, strict low middling 1⅛" bright 22¼c, middling 1 1/16" 21¾c, middling 1 1/32" 20½c, strict low middling 1" 19c. The week has been ideal for harvesting all over the belt. Temperatures were mostly seasonal normal or above.

Staple Basis Easier

Shorter Cottons and Lower Grades Than Middling Unchanged

BOSTON, OCT. 25.—Today's advance in cotton futures, following publication of the ginning report, has brought prices of cotton shorter than commercial 1⅛ in. and of practically all grades back about where they were a week ago, but the weakening of basis on nearly everything longer than full 1 1/16 in. cotton of middling and higher grade leaves the latter about a half cent below prices of a week ago. Basis on full 1⅛ in. hard western cotton of middling grade ranges from 550 to 600 points on December, and on full 1 3/16 in. of middling grade from 750 to 850 points on December. Some shippers have weakened quite as much on strict low middling in cottons longer than full 1 1/16 in., although such weakness is not general as yet. The market continues to be oversold on 1 to 1/16 in. cottons of practically all grades, and is the weakest on shorter and longer cottons of middling and higher grades.

The relatively low prices reached in the futures market until the publication of today's ginning report stimulated no marked increase in mill buying. The same is true of the effect of lower basis prices now available on cottons longer than full 1 1/16 inches. Two weeks ago spinners were eager to buy on a basis of 20c for December and 750 points on December for full 1 3/16 in. hard western cotton of middling grade, but when they became available they waited for still lower prices and have again been whipsawed.

Today's closing prices on the Alexandria Egyptian market did not reflect the advance in American futures caused by publication of the ginning report, and may be expected to show a marked advance unless the New York and Liverpool markets re-act.

Current Quotations

Average prices for Nov.-Dec. shipment of middling and strict middling hard western cotton (Government lengths) are as follows:

	Middling	St. Middling
1 1/16 in.	24 to24½c.	24½to25c.
1 1/16 in. to ⅛ in.	24½to25c.	25 to25½c.
1 ⅛ in.	25½to26c.	26¼to26¾c.
1 3/16 in.	28 to29c.	29 to30c.
1 ¼ in.	32 to34c.	33 to35c.

Basis on N. Y. Dec. 20.40c.

John Malloch & Co., Boston quote Egyptian cotton, c. i. f. Boston for Nov.-Dec. shipments as follows: Meodium Sakellarides, 35⅞c off ⅛c, Medium Uppers, 30¼c., off 5/8c., Oct. 19. They report closing prices Oct. 25 on the Alexandria exchange as follows. Nov. Sak. $36.40, off 68c. Dec. Uppers, $27.72, off 73c, from Oct. 19.

Market Statistics

Basis Middling

	Saturday, Oct. 22	Saturday, Oct. 15
10 markets average	19.52	20.74
Memphis	19.10	20.20

Premium Staples

First Sales from Factors' Tables at Memphis

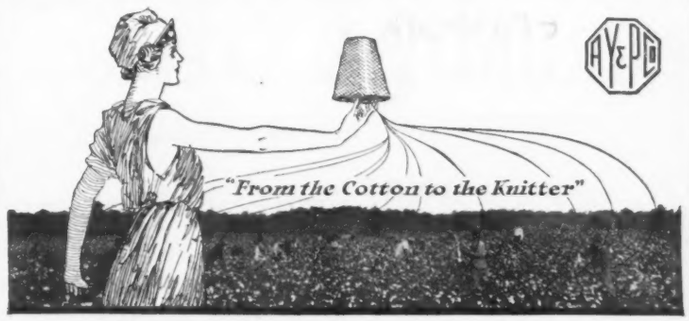
Grade Strict Middling	Prices Barely Steady
1-⅛-in.	23¼@24c
1 3/16-in.	25¼@26c
1-¼-in.	27 @29c

Current Sales

	For week	Prev. week	Week before
Memphis total	27,025	23,800	22,500
F.o.b. included in total	22,500	19,325	16,025
10 markets	216,420	156,902	145,124

Memphis Receipts, Shipments, Etc.

	For week	Last year	Year before
Net receipts	41,955	46,680	21,831
Gross receipts	71,396	88,689	55,155
Total since Aug. 1, net	168,746	211,790	189,737
Shipments	39,227	63,927	45,297
Total since Aug. 1.	223,968	333,393	246,312
Total stock	170,347	245,790	129,479
Increase for week	32,169	24,762	9,858
Unsold stk in hands of Memphis factors	52,000	77,350	.....
Increase for week	2,250	4,650	.....



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OF EVERY DESCRIPTION
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Manufacturers of WORSTED YARNS
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FOR WEAVING AND KNITTING
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WORSTED YARNS

Difficult to Lift Most Wool Tops

Few Concessions in Crossbreds—Sluggish Buying of Noils, Quarter-Bloods Strong

BOSTON.—The top market had another quiet week. South American 44s are about as strong a top as there is and have sold up to 92c. The 50s domestic ¼ blood are also very firm, business being done on a 99c-$1.00 basis. In fine tops the range is $1.32½-$1.35 and in ½ bloods $1.22½-$1.25. Larger business would probably be done if supplies of wool were available at lower prices but there is no appearance at the moment of any such a situation developing. In the Bradford market restriction of activity is due more to lack of raw material than to inadequate trade. Few topmakers will sell ahead at less than current rates and an increasing number are quoting higher prices for delivery in the first quarter of 1928.

Mill buying of noils is rather sluggish. Some of the larger mills are no doubt well supplied from extensive direct imports of recent weeks. The situation suggests steadiness of prices. The strong wool situation is a sustaining factor but it will require mill buying on a more extensive scale than now visible in order for prices to rise to a higher level. The specialty noils are firm.

Mills continue to complain of high noil prices. Comparing the situation with that of two years ago the difference between fine noils and fine wool at this time is 32c as compared with 33c October, 1925. Crossbred noils however are relatively higher than they were two years ago. The difference between ¼ blood wool and noils on current market is only 26c while in October, 1925, there was a spread of 37c. Choice ¼ blood noil is quoted 58-60c as compared with 55-57c in 1925 when clean wool was about 8c per lb. higher.

Top and Noil Quotations

Tops—Boston		Nominal
Fine	(64–66s)	$1.35–$1.37
Half-blood	(60–62s)	1.24– 1.25
High ⅝ blood	(58s)	1.14– 1.15
Aver. ⅝ blood	(56s)	1.09– 1.10
Low ⅝ blood		1.02– 1.03
High ¼ blood	(50s)	1.00– 1.02
46s		.96– .97
44s S. A.		.91– .92
40s		.85– .86
36s		.80– .81

Tops—Bradford, Eng. (Oct. 22)		
Fine	(70s)	55d
Fine	(64s)	51½d
Half-blood	(60s)	47d
Half-blood, low	(58s)	42½d
Three-eighths blood	(56s)	37d
Quarter-blood	(50s)	28d
Cross-bred	(46s)	23d

Noils—Boston		
Fine		$.80– $.85
Half-blood		.72– .75
High ⅝ blood		.65– .70
Aver. ⅝ blood		.60– .63
Low ⅝ blood		.58– .60
High ¼ blood		.57– .60
46s		.53– .55
44s		.50– .52
40s		.50– .52

Sweater Yarns Feature Market

August, September and October Best Quarter in Five Years

PHILADELPHIA.—OCTOBER represents one of the most active months spinners of worsted knitting yarns have enjoyed since the war. Volume of business booked during the month has been equal to that received during the months of August and September, a majority of spinners stating these three months represent the most active quarter of a year they have seen during the last five years or longer. This condition, as far as spinners are concerned, was caused by the exceptionally active call from sweater manufacturers who in turn are experiencing one of the most active periods they have ever enjoyed. From present indications the spurt in worsted knitting yarns will continue during the month of November at least so far as sweater mills are concerned and when this rush shipment business finally comes to an end for this winter, spinners believe a resumption of interest, at that time, will be found from manufacturers of bathing-suits.

Little Speculation

One of the most remarkable features of the market during this active period has been the absence of speculation in yarns by sweater manufacturers although conditions in sweater and the wool markets have been favorable for it. Manufacturers of sweaters have been consuming an exceptionally large volume of yarn but they have not at any time been buying far in advance nor in excess of their requirements. At no time during this active buying have spinners had orders on their books calling for delivery further ahead than 90 days and great bulk of it has been for delivery in less than 60 days. In fact, sweater manufacturers usually have been specifying immediate delivery or as early as spinner could make shipments. This is a healthy situation from the standpoint of spinner and manufacturer and is in contrast to former spurts in outerwear yarns when many manufacturers bought regardless of their needs and simply covered far ahead in case yarn prices advanced.

Outerwear spinners state they have practically no business in hand running beyond the first of the year, bulk of it being for shipments during the next six weeks. Sales of these yarns are now being made on the basis of $1.27½ for 2-20s, high quarter blood, although many spinners state they are holding for $1.30 and refusing to sell further quantities at the old price of $1.27½. While spinners' margins are small, and this is true of outerwear yarns notwithstanding the increases in price from the low level of $1.17½, action of the wool market has been an important factor in bringing about this healthy condition of the yarn market. It has caused manufacturers to place quick delivery business without hesitation, and in addition, this being especially important from spinners' standpoint, they have been taking in deliveries as fast as spinners can turn yarn over to them.

Are Spinners Profiting?

Although it is generally admitted spinners are not making a large profit on this business it is also admitted that spinners of knitting yarns are more fortunately situated in this regard than their weaving yarn competitors whose prices have remained stationary while spinners of outerwear counts have been able to raise their ideas from a low level of $1.17½ to present basis of $1.27½, it being recognized that greatest advances in wools have been registered in quarter blood grades. In this connection it is reported several spinners in this section had the foresight to buy rather heavily in the wool market several months ago and such spinners are able to show a fair profit on current business while those who are compelled to buy wools from week to week are able to break even in selling sweater counts at $1.27½ basis.

Demand for domestic quarter blood wools has come in many instances from outerwear spinners and this has had no small part in bringing about the present strong situation in medium wools. Estimates have been made that 70% of domestic wool clip is now in manufacturers' hands and that remaining in dealers' possession is strongly held because of the active demand for this grade and also because of the fact little has been coming into the country, due to proportionately higher prices that must be paid. On this situation the strength of medium grades stands out more prominently and this is a factor that manufacturers of outerwear, as well as spinners of this type yarn, are carefully studying. This strong trend in wools has had little effect upon sweater manufacturers as they continue to buy as needed and speculation is not conspicuous. This has also been due to the policy of spinners who are refusing to accept contracts running far ahead, largely because of the wool market they are facing in medium grades.

Weaving Yarn Prices Lag

Price changes have been even less important in weaving yarns than in knitting and the rising wool market has had little effect on yarns as used by men's wear and dress goods trades. Larger manufacturers of men's wear have already covered their requirements for the next few weeks, a number having covered their probable needs until the middle of January or, in other words, until the time when duplicate orders may be expected. Spinners of men's wear mixtures, therefore, look for only spotty interest during the interval unless this group of manufacturers book new business from goods' customers in larger volume than is now indicated. Volume of men's wear mixture yarns sold this season has been equal to last year at this time and, all things considered, termed as a normal volume of business.

According to spinners in this group weaving yarns are selling at cost or less based on wool prices now quoted and few spinners will be able to show a profit on this business. Men's wear manufacturers have contracted for French spun mixtures five to ten cents lower than a majority of such spinners are able to quote and as a result bulk of local business has gone to one

WORSTED YARN QUOTATIONS

(Corrected to Close of Business Wednesday)

Bradford System

2–12s, low com. (36s)	97½–1.02½
2–16s, low com. (36–40s)	1.02½–1.07½
2–20s to 2–24s, low ¼ (44s)	1.15–1.19
2–20s to 2–26s, ¼ bld. (46–48s)	1.25–1.30
2–26s to 2–30s, ¼ bld. (48s)	1.32–1.37
2–30s to 2–32s, ¼ bld. S. A. (46s)	1.35–1.40
2–32s, ¼ bld. (48–50s)	1.40–1.45
2–20s, ⅜ bld. (56s)	1.42½–1.47½
2–26s, ⅜ bld. (56s)	1.47½–1.52½
2–36s, ⅜ bld. (56s)	1.52½–1.57½
2–32s, ½ bld. (60s)	1.67½–1.72½
2–36s, ½ bld. (60s)	1.72½–1.77½
2–40s, ½ bld. (60–64s)	1.80–1.85
2–50s, high ½ bld. (64s)	1.90–1.95
2–50s, fine, (66–70s)	2.00–2.05
2–60s, fine, (70s)	2.60–2.65

French System

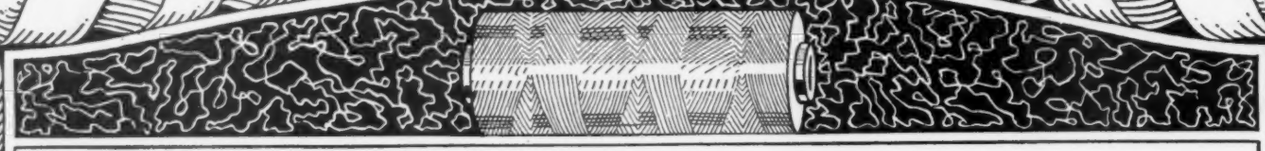
20s, high, ¼ bld. (50s)	1.35
20s, ½ bld. (56s)	1.45
30s, ½ bld. (56s)	1.55
30s, ½ bld. (60s)	1.70–1.75
40s, ½ bld. (60–64s)	1.80–1.85
50s, (66–70s)	2.10–2.15
60s, (70s)	2.55–2.65

Knitting Yarns in Oil (Bradford)

2–20s, low, ¼ bld. (44s)	1.15–1.17½
2–18s to 2–20s, ¼ bld. (50s)	1.27½–1.30
2–26s, ¼ bld. (50s)	1.33½–1.36
2–30s, ¼ bld. (50s)	1.37½–1.40
2–20s, ½ bld. (56s)	1.42½–1.47½
2–20s, ½ bld. (60s)	1.72–1.77½

French Spun Merino White

30s, 50–50	1.30–1.35
30s, 60–40	1.42–1.45
30s, 70–30	1.54–1.59
30s, 80–20	1.65–1.70



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Resist
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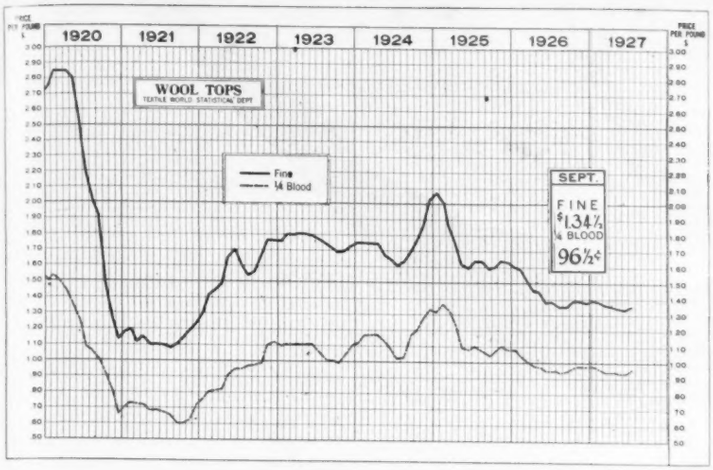
Worsted Yarns—Continued



or two spinners of mixtures, selling on this low basis. Weaving yarns in the gray are less favorably situated so far as spinners are concerned, manufacturers being able to buy 2-40s, half blood, and 2-50s fine, for example, at $1.75 and $1.90, both of which, spinners point out, represent actual cost to them based on current prices of domestic half blood and fine wools.

Lethargic Yarn Market

General Level Too Low—Priced for Profitable Business

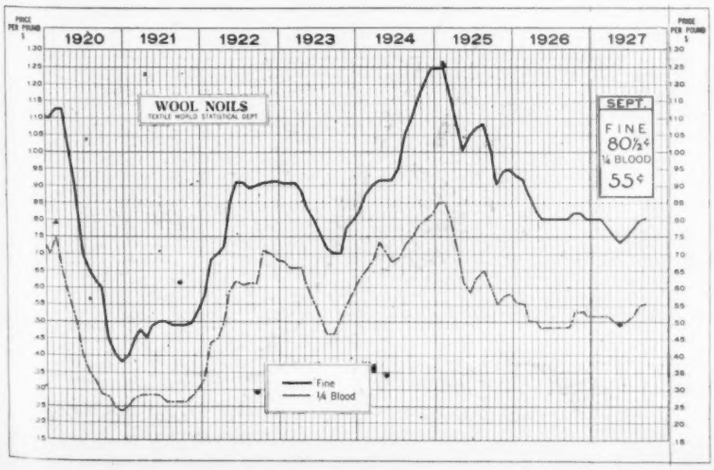
BOSTON.—The worsted yarn market is still in an uncertain position. Asking prices of most yarns are approximately at replacement cost to the mills, but not fully based upon the replacement cost if the raw material has to be purchased at current market rates for wool and tops. Tops in general are not as firm as wool and in wool and tops a line of cleavage is apparent between merinos and crossbreds, the former slower in demand and rather easy as to price while the latter are in better demand with rising values. The selling of yarns is quite another proposition. Outside mixtures and some knitting yarns are probably purchasable 3 to 5c per lb. below profitable conversion costs. It may not be quite as bad as that and yet an independent spinner making money is a rather rare bird. The lethargic demand is an obstacle to a more satisfactory market and to coax things along by underselling the other fellow is considered a poor policy for the industry in general.

The market for the week is slower. Knitting yarns are in less keen demand and weaving yarns are showing little inquiry of importance, filling-in orders the chief feature. There are no large operations visible, no big purchasing ahead, everywhere reserve, everywhere caution. Colored yarns are being taken well on old contracts. In general competition is severe and increases as available business decreases.

In the Bradford market many spinners have covered on their raw material for the balance of the year. A fair amount of business has been booked recently and the situation would be greatly improved if delivery specifications were forthcoming on a larger scale. Prices show a rising tendency. The quotations following this market with the exception of 2-16s are all up ½ to 1 penny per pound for the week. Spinners will not accept additional business at prices ruling at the beginning of the month, the raw material situation being too strong.

BRADFORD (Eng.) YARNS

	s	d
2–16s, 36s	2	1
2–24s, 44s	2	6
2–36s, 58s	4	4½
2–48s, 64s	5	7
2–60s, 70s	6	8



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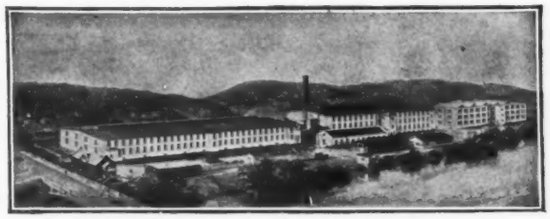
Worsted Yarns

Office and Mills — Thornton, R. I.

MERION WORSTED MILLS



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New York Representative
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RAYON AND SILK YARNS

Thrown Silk Lower

Cheap Prices Are Heard on Staple Constructions

The thrown silk market was reported as slightly improved last week by several representative houses. The improvement, however, extended merely to the size of the orders and the number of contracts placed. It had no reference to prices which continued to sag until many dealers preferred to simply withdraw from the market rather than attempt to buck the ruinous competition that now exists. Prices were heard on Crack XX crepe yarns presumably for weighting purposes which made a joke of any attempt to give a high grade or even a fair grade of yarn. It is the opinion that much of the crepes now sold for weighting have no business in a weighted fabric and that the complaints, returns, and cancellations now being received are a direct result of the existing attempts to get a high grade yarn at a Best No. 1/X price.

Three thread georgette was reported sold as low as $5.85 on bobbins which compares with a fair market quotation of $6.20. Other crepes were sold proportionately as low. Demand was rather good for five thread crepe for weighting and for two thread georgette, the latter being favored over the three thread. Tram did fairly well with a number of hosiery concerns interested in 1928 deliveries. Prices are as follows:

(60 days basis)

Japan Organzine, 2 thd Grand XX in skeins..	$6.60
Japan Tram, 3 & 4 thd tram in skeins.....	5.45
Japan Tram, 5 thd tram on cones.....	5.40
Japan Crepe, 2 thd Grand XX on bobbins....	6.75
Japan Crepe, 3 thd Crack XX on bobbins....	6.20
Japan Crepe, 4 thd Crack XX on bobbins....	6.05
Japan Crepe, 5 thd Crack XX on bobbins....	6.00
Canton Crepe, 3 thd 14/16 on bobbins.....	5.00
Tussah Tram, 2 end on cops.....	3.10

Spun Silk Steady

Buying Well Maintained in Preparation for Broadcloths

Manufacturers continued to make fairly extensive preparations for the spring season in broadcloths with some increase in loomage devoted to this fabric reported. Prices were steady as a consequence although one or two producers were willing to go slightly below the present market in order to secure larger orders. Mills as a general rule operate with conservatism, buying only for a few weeks ahead at most, but reliable information indicated that at least two or three of the larger broadsilk firms are abandoning their policy of conservatism and taking on larger quantities. Schappe was fairly active and steady with importers stating that they were experiencing an improved demand. Prices are as follows:

(2%—30 days)

60—2.....	$4.75	40—2.....	$4.45
50—2.....	4.60	62—1.....	3.80

Raw Silk Hinges on Confidence

Views on Finished Goods Stocks and Outlook Will Set Price Level

WIDE divergence of opinion exists as to the prospects for the silk trade during the balance of the year 1927 and the spring of 1928. Some in the trade look for a stabilized level of prices and a good demand while others believe that the present surplus of merchandise will result in still lower prices, a further difficulty over this period. Without attempting to take either one side or the other, it can be pointed out that the course of prices, and incidentally business, will depend in a great measure on whether the majority takes the favorable or the unfavorable view. Majority opinion will dictate trends up until the early months of 1928, when consumer preference will intrude and either confirm or negate the decision of silk operators.

Regarding the crop of cocoons and directly from this, the quantity of raw silk which will be available, the facts are pretty well known. While some error of calculation is possible, it is pretty definite that the 1927-28 crop in Japan will exceed by some 3 to 5% that of 1926-27 which incidentally was the largest in the experience of the trade. Regarding the quantity of raw silk and finished silks held in this country, there is also a well defined unanimity of opinion. Raw silk can be stated within well defined limits and finished silks stocks are admitted to be ample in the hands of manufacturers and jobbers though small in the hands of cutters and retailers.

By declining from $6 a pound in May to below $5 a pound in September, the raw silk market appears to have discounted the increase in the crop in Japan. From now on the balance will turn on the demand from this country. The hosiery trade can be almost regarded as a fixed quantity so that the only uncertainty is with regard to the broadsilk trade. Here the demand for raw silk will depend upon manufacturing schedules during the months of October through January. Having gotten this far with an analysis, it is only necessary to go one step further and find out what will influence manufacturing schedules. Unfortunately to gain this knowledge it would be necessary to examine the minds of the several thousand manufacturers. Do they regard the future with confidence or misgiving, and will they continue to make up goods for stock in the expectation of selling them at a profit during the months of the spring of 1928? The answer to the future course of raw silk prices hinges upon convictions of the majority, and incidentally this is the opinion of several well informed and competent students of the raw market.

Beck Yarn Co. Expands

The Beck Yarn Co., Inc., also operating the Beck Rayon Co., has taken another floor in the building at 198-200 Greene Street, New York City. The additional floor space acquired is 7,500 sq. ft. This move is in line with the expansion program recently decided upon. The increased space permits doubling their winding capacity and additional machinery has been purchased.

DOMESTIC RAYON PRICES

Denier	"A"	"B"	"C"
55	$2.45	$2.30	$2.20
65	2.35	2.15	2.05
75	2.50–2.55	2.30–2.35	2.20
80*	2.60	....	....
85	2.15	2.00	1.90
90	2.30	2.15	2.05
100	2.15	2.00	1.90
100*	2.25	....	....
120	1.80	1.70	1.60
125	1.75	1.65	....
130	1.70	1.60	1.50
140	1.60	1.50	1.40
150	1.50	1.45	1.35
150*	1.75	....	....
170	1.45	1.40	1.25
170*	1.70	....	....
200	1.45	1.40	1.25
200*	1.70	....	....
250	1.35	1.30	1.25
300	1.30	1.28	1.25
450	1.20–1.25	1.20	....
600	1.15–1.25	1.20	....
750	1.15	....	....
900	1.15–1.20	....	....

* Multi-filament.

CELANESE

Denier		Denier	
45	$4.25	170	$2.85
75	3.75	200	2.75
100	3.65	300	2.70
150	2.90		

BEMBERG (Cuprammonium)†

Denier	Filaments	Price
40	30	4.50
60	45	3.75
80	60	3.50
100	75	3.25
120	90	2.90
150	112	2.40
180	135	2.30
240	180	2.25
300	225	2.25

† All A grade; 2¾ turns; unprepared in skein.

Market for Rayon Holds Active Pace

Increasing Use in Southern Hosiery Mills Reported—Cooperative Advertising Rumored

The rayon market maintained an active pace last week with an increasing call coming from certain industries and sections while others held to the high level attained during the early part of October. According to reports producers are finding that reserve stocks are not only dwindling but have vanished, with testimony to the excellent call confirmed by the ability to move out all sorts of broken lots of various grades and deniers which have been carried for months in some cases. Several producers spoken to last week emphasized the desire of the leaders to spread out the demand as much as possible and to this end are understood to be limiting allotments in a way that approaches a paternalistic attitude not generally found in business these days.

While the rayon firms are finding things their own way these days with every indication that these conditions will continue for many months to come, they are not overlooking the future. There is a well grounded report that some time in 1928 an ambitious program of cooperative advertising will be undertaken aiming to consolidate the ground already gained and also to find additional uses and markets. It is understood that three or four houses have been approached with a definite plan and have signified their approval of the proposal. A meeting is shortly to be arranged between representatives of the larger concerns with a view to take still more definite steps in the matter.

August imports of rayon, according to the Department of Commerce report shows a gain over July. The total of 1,500,000 pounds, this figure is given approximately, is 280,000 pounds larger than the July total and confirms the opinion held by many that we will shortly be bringing in rayon at the rate of 20,000,000 pounds a year. It is interesting to consider that not many years ago this came close to equalling the entire United States production. The 150 denier size was the largest individual denier imported with the "B" quality exceeding in quantity that of the "A" quality.

Waste Markets Improve

Rayon Noils in Fair Demand Ousting Cotton in Instances

Generally improving conditions were reported in both the rayon and silk waste markets. The demand is still below what waste dealers and

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RAYON (Viscose)

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GOOD WORK
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Rayon and Silk Yarns—Continued

sellers would like to see but is apparently on the upgrade if some recent buying is any criterion. Bleached noils again experienced a fair interest at prices that pretty well approximate the established market. The range was slightly below published quotations, according to report but close enough to indicate a better situation. Silks wastes noted some improved demand from spinners who are taking larger quantities of winders, and spinners waste due to the favorable quotations as compared with foreign wastes. In the case of the rayon wastes, it is reported that in some mixtures rayon is replacing cotton due to the better price level.

Bleached open waste	17 @ 20c.
Bleached noils	18 @ 22c.
White thread waste	12 @ 14c.
Unbleached open waste	15 @ 17c.
Colored thread	7 @ 10c.
Winders waste (silk)	60 @ 65c.
Spinners waste (silk)	55 @ 66c.

Rayon Imports for September

The Department of Commerce, Bureau of Foreigh and Domestic Commerce, Washington, D. C., announces the following figures on imports of rayon into the United States during September, 1927:

Imported from	Pounds	Dollars
YARNS		
Austria	40,376	$31,008 00
Belgium	53,350	41,635 00
France	308,583	252,719 00
Germany	216,803	206,010 00
Hungary	3,944	4,922 00
Italy	341,903	306,096 00
Netherlands	162,020	128,032 00
Switzerland	2,485	6,893 00
United Kingdom	12	61 00
Total	1,129,476	$977,376 00
WASTE		
Germany	110	$40 00
Italy	202	81 00
Sweden	3,173	352 00
Switzerland	386	893 00
Canada	23,887	2,463 00
Total	27,758	$3,829 00
YARNS MADE FROM WASTE		
Switzerland	16,483	$10,646 00

American Bemberg Awards Contract to J. W. Cowper Co.

The American Bemberg Corp. of 180 Madison Avenue, New York City and Elizabethton, Tenn., announce further progress in the development of their new manufacturing unit by giving out contract for the main manufacturing building powerhouse and other buildings. Contract has been awarded to the John W. Cowper Co. of Buffalo, N. Y. and Atlanta, Ga., who agreed to start work on Oct. 24.

Max Korff, vice-president of the American Bemberg Corp., stated that his firm regretted that the situation had not enabled them to award the contract for the construction of the second unit to the Hughes & Foulkrod Co. of Philadelphia as they were well satisfied with the work done on the first unit.

"We maintain, however," stated Mr. Korff, "the strict principle closely to let our contracts solely on a competitive basis, providing that all conditions and specifications are equal. We had of necessity to give the business, therefore, to the lowest bidder out of ten equally high class competitors."

Rayon Notes from Britain

(Special to TEXTILE WORLD)

The offer for sale of £2,500,000 in mortgage bonds by British Celanese Ltd., particulars of which have been reported before, was heavily over subscribed during the first hour that the lists were open. Remarkable dealings in rayon shares have been taking place on the London market as may be seen from the following table:

	Oct. 10th	Sept. 26th	Lowest 1927	PAR
Brit. Celanese Ordinary	115/-	85/-	5/9½	10/-
Prefs.	36/-	32/-	9/-	20/-
Canadian Cel. Common	£16½	£16½	£6	.....
Cel. Corp. Amer. Common	£22	£22½	£3-18-1	.....
Courtaulds	£7-7-6	£7	£4-18-1	£1
Harbens Prefs.	26/-	22/6	14/6	15/-
Melso	32/-	31/3	23/10½	20/-
Nuera Ordy.	16/3	28/9	17/6	20/
Defd.	20/9	21/6	10/1½	4/-
Snia Viscosa	48/9	46/9	25/6	L150
Western Viscose Deferred	5/10½	5/9	2/6½	2/-
Prefs.	19/	19/-	11/9	20/-

* * *

The British Celanese Co. has acquired new premises in London situated in Hanover Square. The floor space available is 100,000 sq. ft. and accommodation will be found for the head office, warehouse and accountancy staffs.

* * *

A progress report has now been issued by the Branston Artificial Silk Co. which was floated early this year with a capital of £1,400,000 with the object of commencing the production of viscose silk at Burton-on-Trent. The directors now state that they believe that the various items of expenditure mentioned in the prospectus will not be exceeded. They also say that the working arrangement with Harbens, to which reference has been made in these notes on previous occasions, is going along smoothly and that the machinery and plant, under construction by the Hetherington-Kohorn Machinery Co., is being installed. It is hoped that production will commence in March 1928. It is the intention to gradually expand the production from 4 tons to 10 tons per day and subsequently to 16 tons. Electrical and water supplies have been satisfactorily arranged. A warning is given against the danger of giving credence to unfavorable rumors which have been prevalent on both sides of the Atlantic for some time.

* * *

Considerable excitement has been shown here over the reported arrangements made between Courtaulds, Ltd. and J. & P. Coats, Ltd., the great Paisley firm of thread manufacturers. The rumors have been denied in a rather unconvincing manner and at the present time, the names of Coats and the Nuera Art Silk Co. are being linked together. In this connection it will be recollected that the "Lilienfeld" process for the production of rayon is in the joint hands of Courtaulds and the Nuera Co. Among

Manufacturers of
HOSIERY TRAM

Artificial Silk on Cones

Artificial Silk twisted with Raw Silk

Artificial Silk twisted with Worsted

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A yarn of highest perfection, unsurpassed in wearing, washing and brilliancy of its colors. Suitable for weaving and knitting.

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Has the appearance, rustle, wearing and washing qualities of real silk. For the finest fabrics. Suitable for both knitting and weaving.

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Bleachers, Mercerizers
Dyers and Printers of

Fine Cotton
and
Rayon Fabrics

Rayon and Silk Yarns—Continued

the claims made for this process is that a thread suitable for sewing purposes could be made. It is not impossible therefore that this is the basis of the reported negotiations between the two firms and that Coats may intend to utilize the Nuera silk on a large scale if found to come up to expectations.

* * *

The shares of the Vereinigte Glanzstoff Fabriken of Germany are being introduced to the London Stock Exchange and in a statement issued some highly important information as to the connections of the company was given. Most of this has been published in reviews of the European industry in the TEXTILE WORLD, but in the following brief summary the central points of interest are brought out:

Since April 1926 the capital of the company has been 42 million marks but in August last a further increase to 60 million marks was decided upon and in addition to this capital which was entirely in Ordinary Shares, 300,000 marks in Preference Shares was arranged but has not yet been issued. The net profits for the last three years were 1924—4594983 marks, 1925—5964007 marks, 1926—6982985 marks. The dividend for the last two years has been 15%. Amongst the more important connections of the company are the Vereinigte Kunstseide—Fabriken of Kelsterbach, the Bayerische Glanzstoff Fabrik of Obernburg, the Glanzfaeden A. G. of Petersdorf, Stapelfaser Jordan and Co. of Sydowsaue. The J. P. Bemberg Co. of Barmen and the American Bemberg and American Glanzstoff Corporations.

The following enterprises have been floated in conjunction with the Company lately in Germany. (1) The Glanzstoff-Courtaulds of Cologne. (2) The Deutche Celta of Elberfeld in conjunction with the Comptoir des Textils Artificiels of Paris. (3) The Aceta Co. of Berlin-Lichtenberg in conjunction with the I. G. Farbenindustrie. (4) The Neue Glanzstoff-Werke of Breslau in conjunction with the Dutch Enka Co. and the Kodak of Berlin.

The following undertakings have been founded abroad with the participation of the company. (1) The Austrian Glanzstoff of Vienna. (2) The Bohemian Glanzstoff of Lobositz in conjunction with the Zivnostenska Banka of Prague. (3) The Asahi Silk Weaving Co. of Osaka in conjunction with a group formed by the Japan Nitrogen Fertiliser Co.

In addition to the above there is the International Agreement between Courtaulds, Glanzstoff and Snia and the further agreement with the Enka Company, the total output of these concerns and their connections representing about 70% of the world production. Interchange of shares has given further strength.

Of the fully paid ordinary shares, 8250 of three hundred marks each have been deposited in London and for the greater convenience in dealing, Bearer Certificates have been prepared creating interest in them, the unit being one-fifteenth, part of a share.

Raw Silk Firmer

Strength Develops After Early Irregularity—Cheap Prices Heard

Following several days of irregularity which might almost be called acute weakness, the raw silk market turned firmer and ended the period higher by 5c to 10c a lb. Considerable buying developed during the first half of the week when importers in a number of cases quoted very cheaply apparently in a willingness to discount a further drop. X 13/15 white silk sold in good volume at $4.60 New York terms with some sales of lower grade 20/22s rumored sold at $4.50 L/C. Crack 13/15 was sold at the same time at $4.75, indicating the premium that several houses consider sufficient to obtain a Crack XX. The extreme disparity in grading standards can be judged that while one house was selling at $4.75 others were asking as high as $5.20 for the same grade. The calling of a 30-Yen premium silk a Crack is one cause of the trouble now being experienced in claims for piece goods.

Cantons held firmly in Canton but low prices were heard for resales in New York. One house claimed to have bought at $3.80 L/C which compares with a general asking price of above $4.00. A slightly better inquiry was reported for Canton 14/16.

(90 days basis)

Japan Filature, Grant XX	13/15	$5 60
Japan Filature, Sp. Crack	13/15	5 35
Japan Filature, Crack XX	13/15	5 25
Japan Filature, XX	13/15	5 00
Japan Filature, Best X	13/15	4 85
Japan Filature, X	13/15	4 80
Japan Filature, Best No. 1/X	13/15	4 75
Canton Filature, New Style	14/16	4 00
Canton Filature, New Style	20/22	3 50
Tussah Filature, 8 cocoon		2 60

SUMMARY OF SILK CABLES

Saiyu-Yokohama	**1300 Yen**
Exchange at 3 m/s	**47¼**
Cost C. I. F. New York	**$4.89**

Cables reported the Yokohama market as stronger last week with the final level showing an advance of 10 Yen over that of the previous week. The exchange rate held steady at 47¼. Little interest was shown by exporters until the market had touched 1280 Yen for Saiyu. At this figure covering made its appearance, transactions amounting to 5,000 bales total on Oct. 24 and 25. Some grades were reported as 10 Yen higher on the latter day and a continuance of the buying on Oct. 26 resulted in an advance of 20 Yen. Transactions were 2,500 bales. The Bourse showed considerable strength, the spot month recovering 40 Yen from the low of 1264 and the future months evidencing the same strength noted for a number of weeks. The explanation of the strength of the future months appears to lie in the stronger attitude adopted by Japanese holders who count upon the efforts of the Syndicate and the high rate of consumption in the U. S. to at least maintain prices.

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SASE is a staple fibre of viscose base, spun on cotton machinery. It is a 100% synthetic yarn, with no cotton content, developed by an exclusive process. It is more even than any other spun yarn, and exhibits marked elasticity and strength on the loom or in knitting. Combines admirably and cross-dyes with wool, silk, and certain rayons, retaining its full lustre always.

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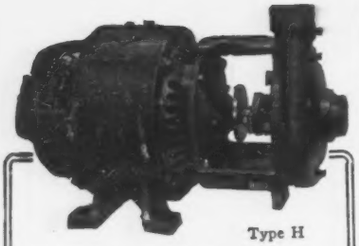

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Occupies minimum of floor space—requiring no sub-base or foundation other than suitable support for its weight. Runs quietly without vibration. Send for Bulletin H-11—and other information regarding the complete LECOURTENAY line.

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More level dyeings are obtained with economy of dyestuffs. Thorough degumming of previously dyed and finished goods are easily and cheaply performed.

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Has increased affinity of the cloth for the caustic liquor, gives better lustre, the mercerizing lye kept clearer and lasts longer.

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Chicago Wool Company
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200 Summer Street - Boston
1907-17 Mendell Street - Chicago
140 S. Front Street - Philadelphia

GENERAL FIBER CO.
Reliable Graders of
WOOLEN RAGS
Chicago—Illinois
Graded Linseys a Specialty

GORDON BROTHERS, INC.
HAZARDVILLE, CONN.
Reworked Wool, Wool Waste
Custom Carbonizing by Dry Process

Hallowell, Jones & Donald
FOREIGN **WOOL** DOMESTIC
252 Summer Street: BOSTON

M. SALTER & SONS
Graders of
WOOLEN RAGS
Manufacturers of
REWORKED WOOL
CHELSEA, MASS.

Elliot Cloth Folder and Measurer
FOR PRINT WORKS GINGHAM AND COTTON MILLS, BLEACHERIES, ETC. ETC.
Send for Circular
Manufactured by
ELLIOT & HALL 54½ Hermon St. Worcester Mass.

WOOL AND SUBSTITUTES

Hopeful Market in Wool Substitutes

Cheap Materials in General Demand—White Mill Waste Active at Strong Prices

Reworked wool manufacturers take courage over the fact that they can meet any kind of demand for any kind of material at reasonable prices. Their consumption field is not merely woolen fabrics but felts, upholsteries and certain types of hosiery. Wherever mill wastes are used the reworked wool industry has usually something to offer as a cheaper partially equivalent fiber. Reclaimed materials are substitutes not only for wools but for wastes and also for noils. When noils and mill wastes are high as at the present time an opportunity is offered for experimenting by the mills in some form of recovered material lower-priced than the materials they are using.

Cautious buying of reclaimed materials is the chief feature of the situation. It rarely occurs that a manufacturer obtains a 100,000 pound order and yet in 1925 they were common enough and in larger amounts. The current hand-to-mouth buying has apparently become an established habit with mill purchasers and in the long run the average cost of material to a consumer may probably average up about the same. The rag merchant and grader have to carry the bag.

Some of the recovered wool plants in northern New England are reported quite busy, at least two running their cards well into the night. This however is not the general experience and taking the industry as a whole it is probably running somewhere near that of the woolen industry that is to say on a 70-75% production basis. The market seems to have thoroughly recovered from its mid-summer weakness. Larger stocks of white knits, light hoods and bright-colored knits could be sold if available but the continued hand-to-mouth policy of purchasing has led graders to adopt the same habit.

All classification of good white mill threads are in steady call both from garnetters, traders and consuming mills. There seems to be a very steady call for these long-fibered wool substitutes. The price tendency is upward. There is never any large surplus of threads in the market. Supplies from foreign markets for year to date are probably 2,000,000 pounds in excess of last year's imports. The foreign markets are all high and purchases therein are becoming more and more difficult for American houses. In the good white soft wastes drawing lap is firm at $1.15 with drawing, roving and spinning around $1.05.

Cautious Wool Manufacturing

Questionable Whether Tops, Yarns and Fabrics Are Based Fully on Ruling Wool Values

BOSTON.

THERE is a sustained demand for wool at a price, but just as soon as an advance occurs buying is checked. Manufacturers are proceeding very cautiously. The worsted industry is not out of the woods nor the woolen for that matter and manufacturing margins, except perhaps on specialties, are still below normal. Some consuming mills are on the ragged edge of credit but the situation is not nearly so blue as occasionally depicted. Piece-meal purchasing is still the main feature in wools, tops and yarns.

Taking the firm situation in raw materials at home and abroad at its face value it would seem as though the real test would come next season if not before, when relatively low-priced wools, tops and yarns had been used up. The chief reason perhaps why prices are slow in advancing is to be found in these low-priced stocks which allow additional purchases on current high market, the manufacturer basing his material costs on the average of his holdings. Mills short of old stocks whether wool, tops or yarns, and unable to get advances on their fabrics, are in a precarious position.

In the meanwhile spinners are strongly resisting any attempt on the part of wool combers to base their commodities fairly and squarely on current wool costs. Some combers in order to keep their production up shade prices 2 or 3c per pound. The situation for the moment is quite difficult and the chief way out of the trouble would be for the independent worsted mills to send in larger orders but this in its turn is dependent upon a more favorable action by the goods market which is still very slow in the placing of orders for standard worsted fabrics.

Summarizing the foreign situation it may be said that the outlook both for wool and its manufactures seems a little better than a year ago. There is a good call for wool where spot supplies are available but consumers are not convinced that current high level will hold and as strong opposition to advances is shown in tops, yarns and fabrics no large forward buying of wools seems likely.

Wool and Substitute Quotations

(Corrected at close of business on Wednesday)

WOOL

Ohio, Pennsylvania and West Virginia

Fine delaine	.46—.47
Fine clothing	.39—.40
½ blood	.46—.47
⅜ blood	.46—.47
¼ blood	.46—.47

California (Scoured Basis)

Northern, 12 mo.	.98—1.00
Southern, 12 mo.	.85— .90

Texas (Scoured Basis)

Fine 12 mo.	1.09—1.12
Fine 8 mo.	.93— .95

Pulled—Eastern (Scoured Basis)

A.A.	1.05—1.08
A-Super	.93— .95
B Super	.87— .90
C-Super	.75— .78

Montana, Idaho and Wyoming (Scoured Basis)

Staple fine	1.12—1.15
Do. ½ bld.	1.02—1.05
Fine & fine medium	1.05—1.07
¾ blood	.92— .95
¼ blood	.83— .87

Mohair—Domestic

Best combing	.70—.75
Best carding	.50—.55

Mohair—Foreign (In Bond)

Turkey Fair av.	.43—.46
Cape Firsts	.42—.45

Foreign Clothing and Combing (In Bond)

Scoured Basis—Cape:	
Super 12 months	1 00—1.02
Super 10-12 months	.93— .95
Australian:	
70s	1.11—1.13
64s	.98—1.00
58—60s	.85— .87
Grease Basis:	
Montevideo:	
58—60s	.44—.45
56s	.42—.43
50s	.40—.41
Buenos Aires:	
48, 40—44s	.32—.33
58, 36—40s	.29—.30

Foreign Carpet (Grease Basis in Bond)

China: Combing	.27—.28
Szechuen ass't	.26—.27
Cordova	.25—.26
Scotch Black Face	.26—.27
East India: Kandahar	.36—.38
Vican'r	.40—.44
Joria	.45—.50
Aleppo	.37—.39

SUBSTITUTES

Wool Waste

Lap—	
Fine white	1.12—1.15
Fine colored	.88— .90
Thread White Worsted—	
Fine	.82— .85
½ blood	.73— .75
⅜ blood	.68— .70
¼ blood	.55— .60
Thread Colored Worsted—	
Fine	.33— .35
½ blood	.30— .33
⅜ blood	.28— .30
¼ blood	.25— .28
Card—	
Fine white	.44— .46
Medium white	.30— .33

Old Woolen Rags

Merinos—	
Coarse light	7½— 8
Fine dark	4½— 5½
Fine light	14½—15½
Serges—	
Blue	6½— 7½
Black	6 — 6½
Red	15 —15½
Knit—	
White	44 —45
Red	17 —18
Light hoods	23 —24
Worsteds—	
Light	7 — 7½
Blue	8 — 9
Black	6 — 6½

The Australian markets are firm with a clip much smaller and also finer than a year ago. The Cape market level is slightly lower than a year ago. The South American markets have not yet opened. An optimistic view of the general wool situation is taken by Lord Barnby, head of the international wool house of Francis Willey & Co., now in this country. In his opinion wool is good property and also a safe speculation. There is little chance of any recession in values and on the other hand a very good prospect that it will enhance in value in obedience to the natural law of supply and demand.

Wool Market Continues Rise

In Crossbred Wools However the Merinos Less Active

BOSTON.—The wool market is firm with a strongly upward tendency. All the Ohio fleece wools are now on the same grease basis price and quoted 46-47c with a probability that the ¼ blood Ohio will touch 48c before the week is over. At the present time the supplies of medium wools seem less adequate to the demand than is the case in the fine wools. The domestic merino wools are now relatively lower than they were a month ago and the mill call is rather spotty and irregular. Whether they will follow the ¼ bloods upward has yet to be determined but the balance of opinion is that sooner or later this will occur.

The bulk of recent imports have been carpet wools with scattered arrivals of New Zealand and South American wools picked up by American buyers in the Bradford, London and Continental markets. The foreign situation is stronger if anything. America is now buying cautiously in Melbourne and Geelong. In the Melbourne market considerable competition was met from Russian purchasers. Wool selling at all the Australian centers is very active. Lower prices, this side of the new year, are not to be expected according to good opinion on both sides of the Atlantic.

Some dealers are talking about domestic prices rising to the importing point before the end of the year. This view of the situation is not concurred in by the large houses on the street. Wool manufacturing at this time is not in any position to pay more money for raw material as it would be quite impossible to pass over any such advances to the cloth distributor. Another factor in the situation is that the mills generally are better supplied with wool than the average dealer believes.

Some of the mills in receipt of ad-

(*Continued on page 220*)

NATIONAL
SOLANTINE GRAY GL CONC.

A Fast-to-Light Direct Dye

DISTINGUISHED by excellent fastness to light and good fastness to washing, sea water, perspiration, alkali, organic acids and rubbing. Possessing excellent solubility and level dyeing properties, it is adapted for application in all types of monel metal machines.

National Solantine Gray GL Conc. is equally as suitable for rayon as for cotton and is recommended for use alone or in combination for the production of a wide range of shades. Having practically no affinity for the animal fibres, it is particularly well suited for silk white effects. Excellent dischargeability with hydrosulfite.

National Aniline & Chemical Co., Inc.
40 Rector Street, New York, N. Y.

BOSTON CHICAGO PHILADELPHIA
PROVIDENCE CHARLOTTE SAN FRANCISCO
MONTREAL TORONTO

NATIONAL DYES

NATIONAL N DYES

New *vs.* Old

No textile manufacturer expects to compete with modern production when equipped with obsolete machinery and out-of-date methods.

Neither can the best results in fine appearance, bright color, and superior texture be obtained without the use of the

Wyandotte Quality and Service Textile Alkalies

These special purpose alkalies are the result of years devoted to scientific study of textile problems.

As a result hundreds of textile mills are benefiting from the application of these alkalies, specially designed for definite operations in the mill.

Ask your supply man or write

THE J. B. FORD CO.
Sole Manufacturers
Wyandotte, Michigan

DYESTUFFS AND CHEMICALS

Philadelphia Quartz Co. Acquires Chicago Interest

The Philadelphia Quartz Co., Philadelphia, Pa., makes the following announcement:

"Desiring to regain our former position in the Chicago market with the least amount of unfavorable effect on the industry, we have arranged for the outright purchase of that portion of the business of the Central Commercial Co. of Chicago which is devoted to the production and sale of silicates of soda."

Watson-Park Co. Prepares New Plant

Watson-Park Co., 165 High St., Boston, Mass., manufacturer of dyestuffs, etc., has work under way on alterations and improvements in the former plant of the Ballardville Spring Water Co., Lowell Junction, Boston, recently secured under lease for a new factory. Early occupancy is planned.

Anco Finishing Corp., Wilkinsonville, Mass., now out of business is to be taken over by interests headed by the Bannons of the Mansfield (Mass.) Bleachery and it is expected the machinery will be moved to Taylors, near Greenville, S. C., where a new cotton printing and dyeing plant is to be established by them and southern interests.

Vat Dye Use Increasing Rapidly

One of Outstanding Features of Progress of Domestic Industry

ONE of the significant developments in the domestic dye industry during recent years has been the increasing use of vat dyes. Consequently the following extracts from the 1926 Dye Census, compiled by the U. S. Tariff Commission, are of particular interest:

Vat dyes as a class possess exceptional fastness to light, washing, acids, alkalies, and chlorine. Some of them are not fast to all of these agents. The consumption of vat dyes is increasing as a result of the increased demand for fast-dyed fabrics by the ultimate consumer of textiles. As cotton goods dyed with these colors withstand the severe treatment of the modern laundry, the increased cost of dye per yard is a minor factor as compared with the increased life of the fabric. A European colorist, referring to the vat dyes, has said that Europe is too poor to afford anything but fast dyes—that the loose or fugitive colors are an extravagance. Their superior fastness and the variety and beauty of shades which they yield have been largely responsible for a steady increase in their use. They are applied on dyed and printed shirtings, blouse material, dress goods, ginghams, muslin curtains, and other cotton wash goods and have a limited application on silk and a still smaller one on wool. Because of their higher cost they are used chiefly for color stripes and small printed patterns.

With the exception of indigo, one of the oldest dyes known, vat dyes are of recent origin, having been developed since 1904. The Badische Co., of Germany, manufactured the first members of this class, known in the trade as the indanthrenes. This group was followed by the ciba dyes of the Society of Chemical Industry at Basle, Switzerland, and later by other series, including the algols, helindones, thioindigoes, and hydrons, produced by different German concerns. Prior to the war vat dyes other than indigo were made exclusively in Germany and Switzerland.

Vat dyes are among the most complex of dyes, difficult to manufacture and relatively high in cost. Chemically they consist of indigoids (including thioindigoids), anthraquinone derivatives, and the carbazole derivatives.

Following the outbreak of the war, the United States and Great Britain, two of the leading consumers of these dyes, began their manufacture on an extensive scale.

In 1924 a water-soluble leuco derivative of indigo, under the name of indigosol, was placed on the market by Swiss and German firms. Since then other indigosol types, including indigosol red, orange, yellow, scarlet, pink, violet, and black have been made in commercial quantity. A similar derivative of Caledon jade green, known as Soledon jade green, was manufactured by the Scottish Dyes (Ltd.). The commercial production of water-soluble leuco derivatives, which can be used on animal as well as vegetable fibers, marks an advance not only in this group but in the whole realm of dye manufacture. Their application by the "direct method" with subsequent oxidation is less complex than by the alkali hydrosulphite process generally used for the vat dyes. Extended use of these new derivatives will depend in large part on their selling prices.

Production and Imports

The total production in 1926 of vat dyes, including indigo, was 29,731,951

Miscellaneous Chemicals

Aluminum Sulp. com.	1 40	—	1 45
Iron Free	2 00	—	2 05
Alum, Ammonia Lmp.	3¾	—	3½
Potash, Lump	2¾	—	3¼
Ammoniac, Sal. white gr., dom.	5	—	5¼
Bleach powder, per 100 lb. works	2 00	—	2 50
Blue Stone	5	—	5⅝
Calcium Arsenate	7	—	7½
Chlorine, Liq. Cylinders	5½	—	9
Tanks	4	—	4¼
Copperas, ton	13 00	—	19 00
Cream of Tartar	28	—	29
Epsom Salts, 100 lb.	1 25	—	1 90
Formaldehyde Spot	9½	—	10
Glauber Salts, 100 lb.	75	—	1 15
Glycerine (C. P.) bbls.	24	—	24½
Cans	25½	—	26
Yellow Crude	24	—	24½
Hydrosulphite Conc.	24	—	25
Lead—Brown acetate	12	—	12½
White (crystals)	13	—	13½
Lime, acetate, 100 lb.	3 50	—	...
Potassium—Bichromate	8¼	—	8⅝
Chlorate crystals	7½	—	9
Permangan, tech.	14½	—	15
Sodium acetate	4½	—	5
Bichromate	6½	—	6¾
Bisulphite, 35%	1 50	—	1 75
Nitrite	8	—	8½
Phosphate	3¼	—	4
Prussiate, yellow	12	—	12½
Sulphide, 60% fused	3¾	—	4
30% crystals	2¼	—	2½
Tartar emetic, tech	31	—	...
Tin—Crystals	44½	—	45
Bichloride, 50 deg.	19	—	19¼
Oxide, bbls.	66	—	67
Zinc Dust	9	—	9½

Acids

Acetic, 28% per 100 lb.	3 37½	—	3 62½
Citric crystals	44½	—	45½
Formic, 90%	11	—	12
Lactic, 22%	5½	—	7
Muriatic, 18 deg. per 100 lb. in tank cars	95	—	1 00
Nitric, 36@42 deg. per 100 lb.	5 00	—	6 75
Oxalic	11	—	12
Sulphuric, 66 deg. per ton in tank cars	15 00	—	16 00
Tartaric	36	—	39

Alkalies

Ammonia, Aqua, 26 deg.	2¾	—	3¼
Borax, Crys. bbls.	4½	—	...
Potash, carbonate, 80–85%	5¾	—	6½
Caustic, 88–92%	7½	—	8
Soda Ash, 58% light	1 37½	—	2 44
Contract, 100 lb.	1 32½	—	1 57½
Bicarb, per 100 lbs.	1 90	—	2 25
Caustic, 76% per 100 lb.	3 10	—	3 90
Contract, 100 lb.	3 00	—	...
Sal. 100 lb.	90	—	1 00

Natural Dyes and Tannins

Fustic: Crystals	18	—	22
Liquid, 51 deg.	9	—	10
Gambier, liquid	11	—	11½
Hematine, crystals	14	—	18
Hypernic Ext.—51 deg.	11	—	15
Indigo—Madras	1 30	—	...
Logwood Extract, liq. 51 deg.	8	—	9
Crystals	14	—	18
Osage Orange, Extract, 51 deg.	7	—	7¼
Quercitron extract, 51 deg.	6	—	6½
Sumac, Ext. dom., ref., 51 deg.	6	—	7
Extract, stainless	11	—	11½
Tannic Acid, tech.	35	—	40

Dyestuffs and Intermediaries

Alpha Napthylamine	35	—	37
Aniline Oil	14¾	—	15
Salt	24	—	25
Beta Naphthol, sublimed	55	—	60
Technical	22	—	24
Dimethylaniline	32	—	34
Metaphenylene Diamine	90	—	95
Paranitraniline	52	—	53

Oils and Soaps

Castor Oil, No. 3	12	—	13½
Olive Oil, denatured, gal.	1 70	—	1 75
Foots	9½	—	10
Red Oil, lb.	8½	—	10
Stearic Acid, double pressed	11	—	12
Turkey Red Oil, 50%	10	—	12

Adhesive and Sizing Materials

Albumen, blood domestic	45	—	55
Dextrine-Potato	8	—	9
Corn, bags 100 lb.	3 77	—	4 04
Gum, British, 100 lb.	4 02	—	4 29
Sago flour	3½	—	4
Starch, corn, 100 lb.	2 97	—	3 22
Potato	6½	—	7½
Rice	9	—	9½
Wheat	7	—	9
Tapioca flour	3½	—	5½

Coal Tar Dyes

Direct Colors—			
Black (H-acid)	28	—	52
Black Columbia FF.	50	—	60
Blue, 2 B.	24	—	32
Blue sky, ordinary	45	—	90
Blue, 2 GL.	1 70	—	2 50
Blue, 4 GL.	1 60	—	...
Blue Sky, FF.	60	—	1 20
Blue, Fast RL.	1 90	—	...
Blue, Solamine	2 00	—	...
Benzo Azurine	90	—	80
Brown, C.	40	—	60
Brown, M.	70	—	90
Brown, Congo G.	85	—	...
Brown, Congo R.	80	—	...
Green, B.	60	—	90
Green, G.	65	—	90
Orange, Congo	60	—	...
Orange, Fast S.	1 80	—	...
Red, Fast F.	80	—	90
Red, Congo	40	—	50
Benzo Purpurine, 4 B.	40	—	60
Benzo Purpurine, 10 B.	1 25	—	1 50
Scarlet, 4 BA.	1 50	—	...
Scarlet, 4 BS.	1 45	—	...
Scarlet, 8 BS.	1 25	—	...
Scarlet, Diamine B.	1 65	—	...
Violet N.	1 10	—	1 20
Yellow chrysophenine	50	—	1 50
Yellow, Stillbene	90	—	95
Developing Colors—			
Black, BH	40	—	60
Black Zambesi	...	—	90
Bordeaux, Dev.	2 00	—	...
Orange, developed	2 50	—	...
Primuline	1 00	—	1 15
Red, Dev. 7 BL.	2 50	—	...
Scarlet, Dev.	2 50	—	...
Sulphur Colors—			
Black	20	—	31
Blue, cadet	90	—	95
Blue, navy	50	—	60
Brown	37	—	60
Green	85	—	1 50
Green, olive	25	—	50
Yellow	45	—	1 40
Basic Colors—			
Auramine	90	—	1 30
Bismark Brown	50	—	60
Chrysoidine	40	—	65
Fuschine crystals	1 50	—	1 75
Malachite green	1 35	—	...
Methylene blue	1 00	—	1 40
Methyl violet	90	—	1 15
Rhodamine B. excone	5 00	—	6 00
Safranine	1 45	—	1 60
Victoria Blue B.	3 10	—	...
Acid Colors—			
Naphthol blue blk.	47	—	60
Napthlamine black, 4 B.	50	—	55
Alizarine saphirol	2 35	—	4 00
Alkali blue	3 25	—	3 50
Indigotine	80	—	1 30
Induline (water soluble)	75	—	80
Soluble Blue	3 00	—	3 75
Sulphoneyanine	1 60	—	...
Sulphone Blue R.	60	—	95
Patent Blue A.	2 50	—	...
Rescorcin brown	80	—	90
Guinea green	1 00	—	2 20
Wool green S.	84	—	1 70
Orange II	27	—	...
Orange GG crys.	60	—	...
Acid Fuchsine	80	—	90
Azo cosine G.	65	—	82
Crocein scarlet	1 15	—	1 90
Fast red A.	50	—	65
Azo yellow	1 35	—	1 40
F. Light Yellow, 2 G.	1 40	—	...
F. Light Yellow, 3 G.	1 50	—	...
Naphthol, yellow	1 35	—	1 40
Chrome Colors—			
Aliz, Black B.	1 80	—	...
Diamond Black PV.	70	—	...
Chrome Blue Black	45	—	...
Chrome Brown	60	—	1 80
Chrome Green	75	—	1 50
Chrome Yellow	45	—	1 10
Indigo—			
Synthetic 20% paste	14	—	14½

Diamond *Quality*

IS CONTINUOUSLY GOOD

Not merely the good quality of a single drum, not merely the quality of a single shipment but the constant uniformity of carload after carload—that's the true merit of all Diamond Alkalies. The quality is *always* good—*always* uniform.

It pays to specify "Diamond Alkalies."

There are Diamond Warehouse Stocks in Your Vicinity

DIAMOND ALKALI COMPANY · PITTSBURGH, PENNA.

ALKALI

Now You Can Size Your Warps with Less Breakage

ADD Victrolyn to your size bath. Let this modern lubricant keep your warps running smoothly, easily . . . and with so much *less* breakage. For Victrolyn proves more satisfactory for this work than tallow. It penetrates more quickly . . . mixes with the size more readily, more uniformly. And you can bank on cleaner work . . .

Victrolyn is an economical oil to use. It's almost completely free of water when you buy it. And you need mix but 5 pounds to every 300 gallons of size.

A test of Victrolyn in your own slashers will prove more than a page of claims. Let us send you a 10 gallon can for trial. If it should prove unsatisfactory, return the unused portion at our expense. *Write.*

See also CONSOLIDATED TEXTILE CATALOG

"Watch the Weaving"

BOSSON & LANE

Works and Office: Atlantic, Mass.

Alizarine Assistant Turkey Red Oil Soluble Oils Monoline Oil
Bleaching Oil Castor Soap Oil Soluble Grease
Para Soap Oil Bleachers' Bluings
Sizing and Finishing Compounds for All Textiles

-VICTROLYN-

(REG U S PAT OFF)

Dyes and Chemicals—Continued

pounds, or 33.79 per cent of all dyes produced. Sales in 1926 were 31,253,627 pounds, valued at $7,336,959. The production of indigo (20 per cent paste) was 25,701,530 pounds or 29.21 per cent of all dyes produced. This was a decrease of 12 per cent from the 1925 production. Sales in 1926 were 28,438,386 pounds, valued at $3,652,786, or 12.8 cents per pound, as compared with 15.6 cents in 1925 and 21.8 cents in 1924. The 1926 selling price is much below the pre-war price in 1913, when our entire supply was imported.

Expansion in the manufacture of vat dyes, many of which were made for the first time in this country in 1926, is an outstanding feature of the domestic dye industry. The total production of vat dyes other than indigo was 4,030,421 pounds, an increase of 54 per cent over 1925, which in turn was a 43 per cent gain over 1924. The increasing importance of this group of dyes to the textile industry for the dyeing and printing of "fast-dyed fabrics" is indicated by the production and consumption figures in the following table:

Vat dyes other than indigo: Production, imports, and consumption in the United States, 1914 and 1920–1926

Year	Production	Imports	Consumption
	Pounds	*Pounds*	*Pounds*
1914....	.....	1,945,304	1,945,304
1920....	1,159,868	716,363	1,921,231
1921....	345,152	1,045,370	1,390,522
1922....	1,075,992	1,548,519	2,624,511
1923....	1,766,383	1,207,554	2,973,937
1924....	1,821,319	1,493,851	3,315,170
1925....	2,608,361	2,418,842	5,027,203
1926....	4,030,421	1,845,208	5,875,629

The ultimate consumer is rapidly coming to a realization of the economy of fast-dyed fabrics. Many domestic textile manufacturers have in recent years put on the market a variety of fast-dyed fabrics of cotton and linen, marked with a trade name and bearing a statement or guaranty as to their fastness to washing and light. These fabrics are often made up into garments such as dresses, men's shirts, and children's clothing, similarly guaranteed. The buyer is thus enabled to purchase fabrics or garments for whose fastness of color the retailer through the manufacturer assumes full responsibility.

The Joint Committee of the Textile Industry, the American Association of Textile Chemists and Colorists, the Bureau of Standards, and a number of retail and selling organizations are all cooperating in an effort to establish the practice of correct labeling and marking of dyed fabrics. It is probable that colored textiles of cotton, linen, and silk will soon be marked according to their fastness to light and washing. A large variety of products or commodities are now graded and sold according to definite standards, and it is logical that the same policy should be adopted by the textile industry.

Credit is due domestic manufacturers of the vat dyes who, with no experience prior to the war, have produced vat dyes on a commercial scale and have each year increased the quantity produced and the variety and number of types. They have overcome tremendous difficulties in developing one of the most complex of the whole group of synthetic organic dyes. The buyer of a vat dye is assured of definite properties of fastness in the fabric on which he uses it, and the ultimate consumer is assured of the longer life of the garment made of a fast-dyed fabric. The public at large is thus coming to a realization that although the fast dye is more expensive, the cost of dye per yard of fabric or per garment is in general a very small fraction of the total cost, and that it is more economical in the long run to invest in the fast-dyed fabrics or garment. The increased consumption of the vat dyes is proof of the demand for them.

Of the vat dyes other than indigo, Anthraquinone vat blue G C D again led in quantity of production and in value of sales. Anthraquinone vat yellow G ranks second. Anthra quinone vat golden orange R, Anthraquinone blue black B, Anthrene jade green, Anthraquinone vat green B, and black, and violet 2 R, and the brominated indigoes showed notable increases in production.

The following vat dyes were manufactured in the United States on a commercial scale for the first time in 1926. Several of them have been among the leading vat dyes imported, and their addition to the domestic producing list is a significant step in the progress of the domestic dye industry.

Ciba violet B. R.
Ciba scarlet G.
Ciba red R.
Indanthrene orange R.
Indanthrene brillant red 3 B.
Brom indigo 6 B.
Anthraquinone vat golden orange 4 R, pink B, red B N, red violet R R N and B N X.
Sulphanthrene violet B.

Imports of vat dyes other than indigo totaled 1,845,208 pounds, which was 39.49 per cent of all dyes imported into the United States in 1926. The 1925 import was 2,416,890 pounds. The following tabulation shows the leading vat dyes imported and the quantity (single strength) brought in during 1926.

	Pounds
Ciba scarlet	142,785
Indanthrene blue GCD	134,832
Indanthrene red violet RH	111,779
Ciba red R	111,320
Helindone printing black RD	75,000
Brilliant indigo 4B	65,711
Indanthrene yellow G	63,326
Indanthrene golden orange G	60,094
Indanthrene oilve R	56,114
Ciba violet R	55,104
Indanthrene brown G	54,420
Indanthrene golden orange R	53,826
Anthra flavone GC	41,002
Indanthrene brown R	37,111
Cibanone yellow R	34,830
Brilliant indigo B	32,920
Indanthrene pink B	32,548
Indanthrene dark blue BO	27,932
Ciba pink BG	27,326
Hydron brown G, R	23,690

Salembier & Clay, Inc., Central Falls, R. I., have closed down their mill until Nov. 1, at which time it is planned to resume on a four-loom instead of a three-loom basis.

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NOT the least of the advantages in using this Company's Disodium Phosphate is that of having it arrive clean and uncontaminated—thanks to our use of only A-1 barrels with special paper liners.

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Silicate of soda is widely used in bleaching with peroxide. The oxygen lets go quickly if a silicate of high grade of purity is used. So Quartz Quality is especially important in buying bleaching silicate and the brand to specify is "Star".

Four Big Reasons Why You Should Use Quartz Quality "Star" Brand

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4. Safe for cotton, silk, wool or rayon.

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Philadelphia, Pa.

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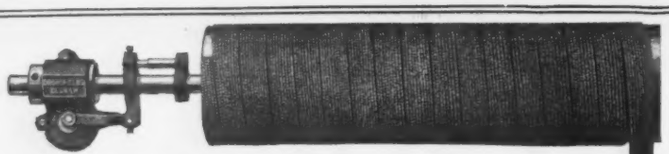

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Stocks in Boston, Mass. & the South

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THE ONLY QUALITY WE MAKE

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Supplied by the Principal Importers

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ROLL FIBRE TOP

STANDARD FIBRE COMPANY

10 High Street, Boston, Mass.

Factories: Somerville, Mass. and Kennett Sq. Pa.

Wool—Continued

(*Continued from page 215*)

ditional business are buying wool more freely but most mills with sufficient immediate supplies are holding out believing that in spite of the great strength in the wool situation abroad domestic manufacturers will be positively unable to pay much higher prices and that this fact will be recognized by the larger wool holders on Summer Street. A good measure of cooperation is seen at the present time between manufacturers and Summer Street wool merchants. Both realize that unnecessary and extreme fluctuations are hurtful to all interests concerned.

The statement that foreign wools are too high is to be understood as meaning that, for American manufacturers and importers, foreign staples are too high for profitable conversion when the heavy wool duty is added to the foreign cost price. Apart from this the statement has but little meaning. Prices on world wools are determined by supply and demand uninfluenced by any international tariffs of importance. As to domestic wools, if growers and sellers are to reap the full advantage of the high tariff then prices are unquestionably low, The wool market could mark up prices sharply before foreign materials could reach a general competitive basis. This however domestic sellers will not be able to do. An advance of 10c per clean pound would bring about marked disturbance in wool manufacturing and yet a rise of this extent would still leave domestic wools lower than similar foreign staples duty paid.

Total exports of Argentine wool from October 1, 1926, to October 1, 1927, amounted to 351,150 bales as compared with 342,250 bales the previous season, a gain of 3%. Germany was the largest buyer, then France and England in third place. United States imports fell from 40,600 bales last season to 30,100 bales this season. Full Montevideo shipments for this season totaled 130,099 bales as compared with 113,884 bales the previous season, a gain of 14%. United States imports were 16,300 bales only as compared with 36,500 bales the previous season. Germany was the largest purchaser of Montevideo wools.

Boston Wool Receipts

Receipts of domestic and foreign wools at Boston also imports at Philadelphia and New York for the week ended Oct. 22, based upon data compiled by the Market News Service of Bureau of Agriculture Economics, Department of Agriculture, are as follows, in lbs.:

	Week Ended Oct. 22	1927	1926
Domestic	1,262,000	201,192,060	151,000,000
Foreign	2,658,000	104,761,000	144,976,000
Total	3,920,000	305,953,000	295,976,000
IMPORTS AT PRINCIPAL PORTS			
Boston	2,658,000	104,761,000	144,976,000
Philadelphia ..	1,603,000	67,559,000	41,592,000
New York.....	1,121,000	45,439,000	48,893,000
Total	5,382,000	217,759,000	235,461,000

Phila. Sales Smaller

Woolen Mills Not Buying — Worsted Spinners Resist Rise

PHILADELPHIA.— Medium fleece wools, which have been the feature of the market during recent weeks, being in active demand from spinners of knitting yarns in this vicinity, with prices advancing steadily, are in smaller request this week. These spinners have taken a large volume of medium wool this season and many of them now have stock on hand to run them for several weeks, so there is no necessity for them to follow fleece prices higher for the time and dealers have found little interest displayed by spinners in this section during the week. It has been a seller's market in fleece and medium territory and dealers have taken advantage of this condition by raising prices until at present several are quoting bright fleeces at 50c for quarter and three-eighths. Spinners have not been buying actively above the 45c level and dealers find little interest at 46c, current price of bright quarters.

While spinners do not believe these wools will decline in price they feel that dealers have advanced quotations faster than conditions warrant; for example, those now quoting 50c for ordinary bright quarters, and they believe a lull in buying will result in a stablization of prices around a 45c or 46c level, which means a clean cost of 80c to 82c. Local dealers estimate that two-thirds of the domestic clip is in manufacturers' hands and they point to the fact there will be no additions to stocks left in dealers' possession for seven to eight months. Dealers who have sold all their medium grades have recently been in the country endeavoring to replenish supplies but find country owners asking 42c for flat lots, which means dealers will have to obtain 47c to 48c for these wools in eastern markets in order to make a profit on the transaction. That several of them have confidence prices here will soon reach that level is seen in cases where local dealers have bought fair sized quantities recently in the fleece sections.

Dealers Stocks Small

Lack of large supplies of domestic wools remaining in dealers' hands has lead many in the trade to look for an active season in South American wools which are starting to arrive in this country. While medium grades are used to a certain extent by knitting yarn spinners as a blend with domestic wools there are many in this section who prefer not to use them unless necessary. Spinners of weaving yarns, on the other hand, will probably use fair sized quantities this year of South American wools and larger amounts than last year should domestic prices continue to advance or should quotations of foreign wools decline. Dealers state South American quarter bloods are quoted

at prices that would mean a clean cost of 90c for this grade.

Territory of Montana staple quality is quoted at 84c to 85c for quarter blood, 93c to 94c for three-eighths, $1.03 for half blood, $1.05 to $1.07 for ordinary fine and $1.10 and up for fine staple. As usual there has been little interest in fine wools here as compared with demand for medium grades, large sale of fine delaine, being reported this week at 47c, the first reported for several weeks.

There is a fair call for combings from worsted spinners as is usual this time of the year. Demand for pulled wools from woolen mills is small, pulled dealers doing practically all their business at present with worsted spinners. Many woolen manufacturers bought fair sized lines of pulled and scoured wools two months ago and as they have been working on light-weight orders which were in hand when they bought this wool dealers do not look for any sustained demand from them until they secure duplicate orders.

Hallowell, Jones & Donald Open Phila. Office

Hallowell, Jones & Donald, 252 Summer St., Boston, have opened Philadelphia offices at 319 Mariner & Merchants Bldg., 3rd and Chestnut Sts., which are in charge of Chas. H. Davis, who will represent them in this vicinity.

J. C. Judge Elected Treasurer of Union Mfg. Co.

FALL RIVER, MASS.—John C. Judge was elected treasurer and clerk of the Union Cotton Mfg. Co., at their annual meeting on Wednesday, succeeding Benjamin C. Shove. Mr. Shove has resigned in order to take a much needed rest to recover from a recent illness.

Machinery at Edinburgh

(*Continued from page 78*)

Ireland, are the only producers of rayon in Ireland and have concentrated attention on the development of linen and rayon mixtures, for which there is a demand particularly in the United States. Last spring your correspondent commented upon this firm's exhibit at the London Rayon Show but since then improvements have been made. At Edinburgh they were displaying mixture cloths in the form of bedspreads, tablecloths, etc., one by Jn. Brown & Son of Belfast being particularly attractive. It had a linen warp and a rayon weft. Hosiery and knitted fabrics made from "Sunsheen" yarn were also shown, together with scarves, knitted ties, hosiery, etc., and heavier furnishing fabrics and madras cloths.

Fairbairn, Lawson, Combe Barbour, Ltd., Leeds and Belfast, were showing an automatic doffing dry spinning frame with patent combined spindle and rove stop motion, also electro-magnetic drag. The method of stopping each spindle is effected by means of a patent positive clutch operated by a two-movement foot lever. A slight pressure on the lever instantly brings the spindle to rest and by movement of a spring catch it is set in motion again, allowing the operative to have his hands free. If a spindle is stopped the rove is stopped by means of the grippers below the traversing rove guide. When the spindle is started, the top pressing roller is automatically put into working position thus causing the rove to flow in the drafting position. The usual "dead" spindle motion is replaced by a "live" spindle. Each spindle is separated in a rigid double bracket, with the driving wharle placed between the top and bottom bearings. While the yarns are being spun, the operator fills the doffing creel with empty bobbins and the operation of doffing is effected by lowering the lifter plate, together with the full bobbins, to a position below and clear of the spindles, when the holder carrying the empty bobbin moves forward, pushing off the full bobbins into a trough situated beneath. The empty bobbins are then lifted into position, a few turns are put in while the spun thread is still unbroken and the full bobbins completely detached by cutting the threads now connecting them with the empty bobbins.

W. & J. Foster, Ltd., of Preston and Leicester, showed a new triple system power flat jacquard machine. This machine produces nearly three times the output of the single system machine but uses only one-third the number of pattern cards. It works three yarn carriers at one time, making a complete three color row of stitches in one traverse of the carriage. Lace and embroidery effects can be produced and "eightlock" patterns can be made with three colors in one row, and patterns with four and five colors introduced. The drive is by chain and there is automatic change of cams for welt and dividing course. It is claimed that the machine, while retaining all the benefits of the flat machine, approaches the circular so far as production is concerned.

The Universal Winding Co. of Manchester and Boston U.S.A., were showing among other items the new machine for high speed winding of cotton to cones for the high speed method of warping as a supply to the doubler winder and also for the winding of cottons, woolens, worsteds, etc., for knitting purposes either from hank or over-end from cop, cheese, ring bobbin, etc. These machines are better known in the United States than in Britain so your correspondant has omitted a detailed description. They are rousing great interest in Britain and greater developments may be expected.

G. Durrant of Manchester exhibited a new patent mechanical guider and a new weft straightener. The weft straightener not only straightens the cloth from selvage to selvage, but also takes a bow out of the middle of the cloth.

The Irvinebank Dyeworks, Ltd., Kilmarnock, had wool, cotton, silk and rayon yarns dyed at their works. In the rayon section samples of ordinary viscose, acetate, hollow filament, cuprammonium and Rhodiaseta (acetate) yarns were shown.

Platt Bros. & Co., Oldham, showed Platt & Walker's patent automatic feeding machine for application to woolen, worsted and cotton waste carding engines; a self acting woolen mule for slubbing, drawing or spinning; a ring doubling frame for plain and fancy yarns and a power loom of the calico type fitted with the Whittaker automatic weft replenishing attachment.

Scweiter Ltd. of Horgen-Zurich, had their new spindleless hank winder specially constructed for fine denier rayon yarns. Several recent improvements have been made on this firm's machines, a spare wheel for the elimination of strain has been added and the auto stop motion improved. They were also showing an improved drum winder, said to be one of the fastest winding machines ever built commercially.

Henry Livesesy, Ltd., Blackburn, created considerable interest with an extra large drum warping machine arranged for warping thread by thread in continuous sections, according to the number of sections required. The tension in the case of rayon yarn is relieved with great advantage and another feature is that the beaming is done on the same machine.

Edouard Dubied et Cie, Couvet, Switzerland, had a new jacquard power model in two types. One was an 18-needle machine and the other a ten-needle. By a special jacquard mechanism an unlimited variety of patterns can be obtained without the further use of cards. This is effected by the simple addition of studs on the striper-chain.

British Celanese, Ltd., had their usual charming display of fabrics including the new crepe Malika and the light locknit. The former resembles georgette.

Art Cloth Mills Becomes National Weaving Co.

GREENVILLE, S. C.—Reorganization of the Art Cloth Mills, formerly the Judson Mill No. 3, and change of name to the National Weaving Co., was approved at a meeting of the stockholders. The following officers were elected: R. L. Stowe, president; A. C. Lineberger, Sr., vice-president, and A. C. Lineberger, Jr., secretary-treasurer. Preferred stock to the sum of $300,000 will be issued to pay off certain indebtedness, it is said.

B. E. Geer and C. M. Geer, both of Greenville, have resigned as president and vice-president, respectively.

The new board of directors consists of R. L. and S. P. Stowe, A. C. Lineberger, Sr., and A. C. Lineberger, Jr., W. T. Lowe, of Gastonia, and W. H. Wood of Charlotte. The plant will continue to manufacture draperies, upholsteries, shirt and dress goods.

Peech Sons & Phillips Co., Camden, N. J., mercerizers, before the end of the year will move their plant to Burlington, N. C., where they and others have formed a new concern called Burlington Processing Co. They have acquired a building 265 x 67 feet in which the Camden machinery and additional new machinery will be installed. Alterations to this structure are being made, and an additional mill building will be erected. Stockholders of the new processing company met Oct. 24 approving these plans and an official states that moving of machinery and alterations to Burlington mill building will start immediately to be completed before end of year when Camden plant will be discontinued.

"DO YOU KNOW?"

Approximately what percentage of weight is added to 64 x 60, 5.35-yd. print cloth by starching?

Does humidity strengthen the cotton fiber itself, or merely the yarn?

Why is it desirable to use a variable-speed motor for driving ring spinning frames?

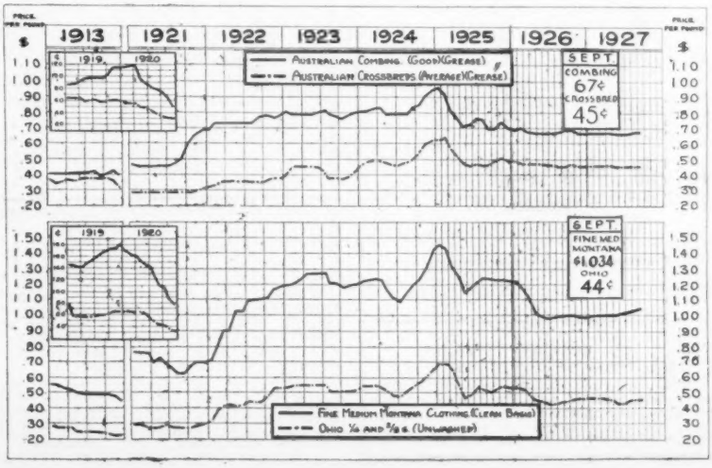
Why cannot strength test figures of raw silk be taken as indicative of the evenness of the thread?

What safety device applied to looms will completely eliminate danger from flying shuttles?

Why is it inadvisable to varnish a jacquard harness after it has been leveled and tied up?

How should cotton goods with rayon stripes be soaped?

If you are interested in the answers to these questions, you will find them in articles in this issue.



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Silk, Cotton, Worsted, Artificial Silk, Linen, and Novelty Yarns, Twisting, Doubling, Reeling, Cops, Cones, Tubes, and Skeins, Winding in every form, single and multiple.

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Morrisville, Bucks Co., Pa.

Enterprise Garnetting Company

Custom Picking and Garnetting

Specialty of fine worsted threads and clips. Our work fully guaranteed.
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Telephone Woonsocket 2573 Established 1918

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Briefly, the Mill Property Department lists and acts as broker for the sale of complete textile plants in any part of the country, or for vacant plants suitable for textile mill purposes.

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Mill Property Department
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Special Winding, Warping and Sizing of RAYON

We are specialists in winding and warping Rayon.

The production facilities of our large, modern plant enable us to take care of quantity orders, with definite assurance of quality work and quick delivery at very reasonable prices.

IT WILL PAY YOU TO GET IN TOUCH WITH US

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For Sale

Clark Cotton Mill consisting of 20,000 square feet of floor space, 10 tenant houses, 9 acres of land in the City of Athens. Plenty of hydro-electric power, free tax for 5 years. Address

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CONTRACT SPINNING & KNITTING

Any grade of stock converted on woolen system to yarn on standard or super cones, sizes from 7 to 30 cut, single or plied. Any kind of yarn, including rayon converted to cloth on spring needles, in all widths, any gauge.

NOVELTY KNITTING CO., Cohoes, N. Y.

Situations Wanted

Manufacturers who are in need of superintendents or overseers for any department of mill work may learn of suitable men upon application by mail or telephone to C. T. DONLEVY, care Textile World, 65 Franklin Street, Boston, Mass.

OVERSEER CARDING IN WOOLEN MILL. Position wanted by man 38 yrs. of age American, married. Worked on blankets, fine flannels, satinets and dress goods. Familiar with D&F, Lombard, Proctor & Smith cards. A No. 1 references.
O. B. 214, Textile World, Boston, Mass.

HOSIERY MACHINE FIXER. Position wanted by man 35 yrs. of age, Brazilian, married. Worked on pure silk and cotton hose, half hose, and children's socks. Familiar with Banner, S&W, Wildman, Merrow, Steady Dial and Universal machines. Good recommendations.
O. B. 435, Textile World, Boston, Mass.

OVERSEER WOOLEN CARDING OR SECOND HAND. Position wanted by man 47 yrs. of age, American, married. Worked on wool, shoddy, noils, silk, cotton and rayon. Familiar with D&F, Lombard and Cleveland cards. Good recommendations.
O. B. 445, Textile World, Boston, Mass.

OVERSEER KNITTING OR ASSISTANT. Position wanted by man 50 yrs. of age. English, married. Worked on glove cloth, glove silk underwear, celanese underwear, nets and veiling. Familiar with English, Shubert, Acme Milanese, American tricot machines. First class recommendations.
O. B. 483, Textile World, Boston, Mass.

SUPT. WOOLEN OR WORSTED MILL OR ASSISTANT. Position wanted by man 25 yrs. of age, American, single. Worked on meltons, kerseys, flannels, blankets, plaid backs, worsted men's wear, suitings and topcoatings. Familiar with all makes machinery. Good recommendations.
O. B. 492, Textile World, Boston, Mass.

OVERSEER WOOL CARDING OR SUPT. WOOL CARDING & SPINNING. Position wanted by man 40 yrs. of age, German-American, married. Worked on carpet stock, fine wools, cotton and shoddy mixtures. Familiar with all makes cards and tape condensers. A No. 1 recommendations.
O. B. 806, Textile World, Boston, Mass.

OVERSEER DYEING IN WLN. OR WST. MILL. Position wanted by man 36 yrs. of age, American, married. Worked on men's wear woolen and worsteds, piece dyes, woolen, worsted and cotton yarns, cotton, wool, noils, shoddies. Familiar with Klauder-Weldon, Franklin Process and Hussong machines. Good references.
O. B. 834, Textile World, Boston, Mass.

Red Cross Drive Plans

Textile Field Chairmen for Annual "Roll Call" Chosen

The entire textile field in New York City will be intensively covered in the 1927 Red Cross Roll Call, according to the plan of representative leaders, who, as volunteer chairmen of specially organized groups, are already formulating a comprehensive Roll Call program.

Thomas F. Vietor of Frederick Vietor & Achelis heads as chairman the cotton factors and commission merchants group; C. Whitney Dall heads the cottons group; Lawrence Marx, president of Cohn-Hall-Marx, heads the cotton converters group; Robert McBratney, Sr., of the Robert McBratney Co., heads the linens group; and Louis Stearns of John N. Stearns & Co., heads the silks group. A similarly organized woolens group will also function in the campaign organization under its individual chairman.

The vast volunteer organization of the metropolis to secure the superlative response throughout the city to the annual membership effort will number representatives of every phase of New York's industrial, mercantile, and professional life. Following the program which has operated with notable results in previous years, the huge volunteer alignment will be based on the plan of wide-spread committee groups to carry the Roll Call message into every branch of trade and industry and by the opening of the Roll Call on Armistice Day, it is estimated that approximately 400 such groups will be in action, each under the leadership of an outstanding figure in the field to be covered by the individual group.

The chairmen of the group covering the textile field, of whom Messrs. Dall, McBratney, Vietor, and Stearns, served as chairmen of similarly organized groups in the Roll Call endeavor last year, anticipate even more generous support for this appeal and aims at a unanimous enrollment.

Included in the outstanding activities of the Red Cross, for whose adequate maintenance the annual membership invitation is extended to every resident of the city, are the disaster relief and the public health program under which thousands of surgical dressings are supplied each year to local hospitals and which also covers nursing service, first aid, work in home hygiene and care of the sick.

Disabled ex-service men and their dependents are also a large factor in the Red Cross program and activities on their behalf include legal assistance, money loans, and medical attention.

Carlton Mills Co., Inc., Philadelphia, Pa. Machinery and equipment of this concern, who recently announced their intention of liquidating the business located at Coral & E. Hagert Sts., where they manufactured jersey cloth, astrakans, stockinet, etc., is being sold piecemeal to a number of buyers, one of the largest lots being taken by the Starr Knitting Mills, Pleasantville, N. J.

Business News

Wickwire Spencer Steel Co. Friendly Receivership

The Wickwire Spencer Steel Co., Inc., voluntarily went into receivership under date of Oct. 22. Edward C. Bowers and Charles L. Feldman were appointed receivers by the court.

Mr. Bowers was for the last two years president of the corporation and his appointment as active director of affairs denotes greatest confidence in his direction of the company's business and in his ability to carry on to successful termination the present readjustment proceedings. His appointment has insured the retention of the present organization which covers administrative, operating and selling departments. All the plants will be operated as heretofore without shutdown. Any unfilled commitments on the books of the company will be successfully handled as will future business that is placed with them. There will be no rearrangement of the selling organization in any respect and sales contacts which customers have had will be maintained as in the past.

The American Wire Fabrics Corp., while it is a subsidiary of Wickwire Spencer Steel Co., Inc., is not in the receivership and in no way affected by these proceedings.

Brooks Bros., Co., Inc., Philadelphia, Pa., manufacturers of tapestry and drapery piece goods, their local plant being located at 4841 Lancaster Ave., where they have an equipment of approximately 112 looms, are planning the erection of a branch mill to be located at Greenville, S. C., where they will manufacture cotton plushes. Ground has been secured, according to reports, and they will start the erection of this new branch mill in the near future, in which they will install approximately 24 looms as initial equipment. It is reported this concern will operate the southern mill under the name, Southern Pyle Fabric Co., and will build on the site of the old Riverdale mill near Greenville, S. C., on which, this report states, a plant costing between $30,000 and $40,000 will be constructed to be occupied by Brooks Bros'. southern branch mill for the manufacture of plushes. At the offices of Brooks Bros., Co., it was stated they had nothing further to add to this report at this time.

Piedmont Print Works, Taylors, S. C., as reported in a previous issue, will be organized under the laws of Delaware and capitalized at $1,000,000 consisting of 10,000 shares of preferred stock of $100 par value, and 25,000 shares of common stock of no par value. The organization meeting was attended by H. R. Stephenson of Greenville, S. C., who is connected with both the Southern Bleachery and the Lanett (Ala.) Bleachery & Dye Works in an executive capacity; by Robert S. Stephenson of the Southern Bleachery; by William H. Bannon of the Mansfield Bleachery, Mansfield, Mass.; by Joseph B. Warne of New York, agent of the Southern Bleachery and other bleaching plants; and by William Shaw. Officers and directors of the Piedmont Print Works will be named soon, and it is expected that actual construction work on the plant will begin at an early date, a site having been selected just across the Enoree River from the plant of the Southern Bleachery.

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Business Opportunities

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Real Estate and Insurance — Established 1888
170 Westminster Street — Providence, R. I.

SURPLUS YARNS

We purchase yarns of all kinds. Large and small lots. Send samples, state price and quantity.

SCIENTIFIC TEXTILE CO.,
Morrisville, Pa.

Selling organization covering Virginia and the two Carolinas calling on Weaving trade wants reputable manufacturers' line.

Address Adv. 656, Textile World,
334 Fourth Ave., New York.

WOOLEN MILL

Two men who sell over $1,500,000.00 annually with wide acquaintance, knowledge of fabric and style, seek selling agency of mill making popular priced woolens.

Address Adv. 657, Textile World,
334 Fourth Ave., New York.

Position Wanted

POSITION WANTED

Young man, 7 years' experience in cotton and rayon weaving, as designer and assistant superintendent, is now open for position as superintendent or assistant superintendent. Good references.

Address Adv. 639, Textile World
334 Fourth Ave., New York

CHEMIST AND SUPERVISOR

Able to help with your rayon problems, wants temporary or permanent position, 10 years' experience in textile and rayon manufacturing and testing.

Address Adv. 652, Textile World,
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Wanted

by experienced full-fashioned hosiery knitter now employed, chance as a fixer and foreman with privilege of investing about $5,000 in the business. Willing to operate a machine temporarily.

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Men Wanted

Wanted

Thoroughly experienced man who can successfully handle rayon on No. 50 machines. One who is experienced in training new help. An opportunity with good prospects. When replying give address with full particulars.

Address Adv. 663, Textile World,
334 Fourth Ave., New York

Men Wanted

WANTED for a large Textile Plant located in Massachusetts, a first-class dyer experienced in handling help and laying out work for the running of 15 to 20 Kettles on fine worsted dress goods and men's wear, both plain and fancies with silk stripe effects. Must have had good experience and be competent color matcher.

In replying state age, nationality, where now and previously employed and experience in full.

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334 Fourth Ave., New York.

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Manufacturer offers a splendid opportunity to one or two men who have successfully sold dyestuffs, chemicals and related specialties. Salary and commission. Men without experience need not apply. State full particulars.

Address Adv. 636, Textile World,
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Wanted

Expert fixer Wildman Spring Needle Knitting Machines, Oswald Lever Winders and if possible sewing machines used in the manufacture of Rayon underwear. Position has good future.

Address Adv. 650, Textile World,
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Wanted

Assistant Dyer for Union piece dyeing. Splendid opportunity. Address application to

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334 Fourth Ave., New York

TEXTILE CLEARING HOUSE

	1 inch	2 inches
1 time	$3.50	$7.00
2 times	7.00	13.20
3 times	10.50	19.20
4 times	13.20	24.80

	3 inches	4 inches
1 time	$10.50	$13.20
2 times	19.20	24.80
3 times	27.90	36.00
4 times	36.00	48.00

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THE TWO MILLS

and

2,000 LOTS of MACHINERY and EQUIPMENT

(the equipment of 42,800-spindle cotton mills)

of the

Quidnick-Windham Mfg. Co.,

Quidnick, Coventry, Rhode Island

MONDAY, NOVEMBER 7th, 1927
TUESDAY, NOVEMBER 8th, 1927

Commencing at 10 o'clock, A. M., each day on the premises

and

THE TWO MILLS and 2,000 LOTS of MACHINERY and EQUIPMENT

(the equipment of 37,168-spindle cotton mills)

Eleven Tenement Houses, Storehouse, Store and Thirty-Six Parcels of Land of the

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SATURDAY, NOVEMBER 12th, 1927

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WANTED

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Address Adv. 655, Textile World, 334 Fourth Ave., New York.

Wanted

500 Braiders for Shoe Laces. Must be in good condition.

Address Adv. 664, Textile World, 334 Fourth Ave., New York

Wanted

One Scott & Williams B-3, 3¼ inch cylinder and one B-3, 3 inch cylinder machine, any number of needles will be satisfactory.

Address Adv. 651, Textile World, 334 Fourth Ave., New York

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Grand Rapids Rolling and Folding Machine Combined.

Address Adv. 649, Textile World, 334 Fourth Ave., New York

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Hoffman Underwear Press

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Wanted

Several No. 50 Universal Winders.

ASBESTOS TEXTILE CO.
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